



DELHI POLYTECHNIC
LIBRARY

CLASS NO. 658

BOOK NO. C 92 T

ACCESSION NO. 16,691

TRAINING PROCEDURE

BOOKS BY FRANK CUSHMAN

Training Procedure

A Discussion of the Problems Encountered in Planning Organizing, Operating, and Maintaining Efficient Training Programs in Industrial, Business, and Public Service Organizations 230 pages 5 by 7 $\frac{1}{2}$ Cloth

Foremanship and Supervision

A Practical Handbook for Foreman Conference Leaders and Supervisors of Vocational Education Second Edition 286 pages 5 by 7 $\frac{1}{2}$ Cloth

Mathematics and the Machinist's Job

The Practical Mathematics of the Machinist's Trade Prepared for the use of machinists, machinist apprentices, and students of machine shop practice in vocational schools 226 pages 5 by 7 134 figures Cloth

TRAINING PROCEDURE

A DISCUSSION OF THE PROBLEMS ENCOUNTERED IN
PLANNING, ORGANIZING, OPERATING, AND MAINTAIN-
ING EFFICIENT TRAINING PROGRAMS IN INDUSTRIAL,
BUSINESS, AND PUBLIC SERVICE ORGANIZATIONS

FRANK CUSHMAN

CONSULTANT IN VOCATIONAL EDUCATION
FEDERAL SECURITY AGENCY
U. S. OFFICE OF EDUCATION, WASHINGTON, D. C.

NEW YORK

JOHN WILEY & SONS, INC.
LONDON: CHAPMAN & HALI, LIMITED

IN THE REPRINTING OF THIS BOOK, THE RECOMMENDATIONS OF THE WAR PRODUCTION BOARD HAVE BEEN OBSERVED FOR THE CONSERVATION OF PAPER AND OTHER IMPORTANT WAR MATERIALS. THE CONTENT REMAINS COMPLETE AND UNABRIDGED.

COPYRIGHT, 1940, BY
FRANK CUSHMAN

All Rights Reserved

This book or any part thereof must not be reproduced in any form without the written permission of the publisher.

PREFACE

THIS BOOK represents an effort to present a sensible and practical discussion of a procedure which may be followed where the end to be achieved is the establishment of an efficient training program in an industrial, business, or public-service organization.

The scope of the discussion is limited to problems of training employed personnel, and the principal objective of such training is stated, without apology, as *improvement in the performance of work*. The specific nature of this quite obvious objective of "in-service" training is not intended to cast any reflection upon the value of any of the more general objectives of adult education. However, it seems reasonable that training programs, especially where the training is given on the work time of the persons served, may be expected to gain favor with management to the extent that the objectives of such training have a very direct bearing upon the efficient meeting of responsibilities and upon improvement in the performance of work of all grades by employed personnel. It is my hope that the ideas developed in this book will be of interest to executives on all levels, as well as to those in immediate charge of training activities.

An earlier book of mine, *Foremanship and Supervision*, to which many references are given, concerns itself with those phases of a complete training program for which the conference technique is of maximum utility. This book, however, attempts to deal with the whole problem of developing

a training program for employed personnel. It starts with the recognition of needs for training and ends with a discussion of the problem of incorporating the values derived from training activities into everyday working practices.

A brief one-page abstract of the text is given at the beginning of each chapter with the thought in mind that persons who are interested in the subject of training will thereby be able to estimate quickly the probable value to them of the more detailed discussion which follows. The entire presentation is intended more to stimulate thinking on the problems involved than to supply answers to all the questions that might be raised.

The book is the result of many years of experience in working cooperatively with industrial and business executives, supervisors, and foremen, and also with leaders in vocational education, in attempting to evolve practical plans for the training of employed personnel. Among all those with whom it has been my privilege to work, the late Dr. Charles R. Allen stands out as the individual who made perhaps the greatest contribution that has thus far been made to the formulation of sound principles of vocational training. It is therefore but natural that, because of my many years of close association with him, this presentation of principles of training procedure should, to a considerable degree, reflect his philosophy and the workings of his keen analytical mind. In fact, many of the ideas developed in the book date back to innumerable friendly and informal discussions with him.

Acknowledgment is also made to Mr. R. R. Zimmerman, Council of Personnel Administration, Washington, D. C., Mr. Lynn E. Stockwell, Division of Vocational Education, University of California, Berkeley, Calif., Mr. James R. Coxen, Vocational Division, U. S. Office of Education, and

Mr. M. Norcross Stratton, Division of Vocational Education, State Department of Education, Boston, Mass., for reviewing the manuscript and making helpful suggestions concerning it. Also, special acknowledgment is made to my son, Robert W. Cushman, of the Library of Congress, Washington, D. C., for his assistance in editing the manuscript while it was in the formative stage.

FRANK CUSHMAN

WASHINGTON, D. C.

October, 1939

CONTENTS

CHAPTER	PAGE
I. THE PROBLEM OF TRAINING EMPLOYED PERSONNEL	3
Training always costs money. Wide variations in needs are common. The principal area to be served. Training costs are inescapable. Two definite fields of training. Two principal classes of in-service training. Preparatory training subsequent to employment. Extension training for employed personnel. A few important fallacies which should be recognized. Some typical mistakes. Summary of preliminary discussion of in-service training.	
II. IDENTIFICATION OF NEED AND PRELIMINARY PLANNING	27
Mechanical analogy. Tendency to provide programs of a general nature. Specific situations should be recognized. Type situations which may indicate the need for a training program. Type situations which an executive may recognize without any help. Type situations not always apparent to a head executive. Summary and conclusion.	
III. THE ORGANIZATION OF TRAINING	63
The definition of general and specific training objectives. The making of such analyses as may be needed. The outlining of units of instruction. The selection and training of instructors. Types of organization for operating the program. Types of organization for decentralized units.	
IV. THE OPERATING OR PUTTING-OVER STAGE	123
Fundamental conditions necessary for efficiency. Properly selected groups. Working conditions. Three principal classes of training objectives. Size of instructional groups. Time arrangements for training groups. Educational procedures. Training methods and devices. Training records. Dangers to be recognized. Conference reports. Need for exercising judgment in running program.	

CHAPTER	PAGE
V. CHECKING THE OUTCOMES OF THE TRAINING PROGRAM	149
What is meant by a check-up. Value of a check-up.	
Possibility of making an effective check depends upon	
several factors. General summary on checking up.	
VI. THE APPLICATION OR TRAINING STAGE	169
Efficient instruction includes some application. What is	
the application stage? Tendency toward inadequate applica-	
tion. Basic factors upon which good application depends.	
Specific factors affecting application. How can the applica-	
tion stage be carried out? Good application depends	
upon the supervisor.	
VII. THE HOLDING-ON OR MAINTENANCE STAGE	187
Importance of the holding-on or maintenance stage.	
What is the holding-on or maintenance stage? Integration	
of training. Importance of morale. Some causes of poor	
integration. Tendency of programs to slump. Follow-up	
necessary for general improvement. Importance of sound	
policies. The importance of certain human tendencies and	
wishes. Importance of the human factor. How can the	
holding-on stage be handled? Importance of efficient super-	
vision. Minimum of interference by staff members. Co-	
operation. Support of executives. Continuity of interest of	
executives. "Master Sessions." Three ways in which im-	
provement should be secured. Two principal influences	
necessary for success.	
APPENDIX A. OUTLINE OF AN INSTRUCTOR TRAINING COURSE . . .	211
APPENDIX B. OUTLINE OF A CONFERENCE LEADER TRAINING COURSE	
APPENDIX C. SELECTED REFERENCES	221
INDEX	225

TRAINING PROCEDURE

ABSTRACT

This chapter points out that, in every working organization, training is always going on, that it always costs money, and that the costs associated therewith are inescapable. It distinguishes between preparatory training subsequent to employment and extension training provided for employed personnel. For each of these two classes of training, it discusses some of the more common conditions which may justify the setting up of training programs.

Some of the fallacies concerning training which are more widely accepted than they should be are discussed. Also, typical mistakes which have often been made in connection with attempts to operate training programs are summarized.

CHAPTER I

The Problem of Training Employed Personnel

IN PRACTICALLY all organizations where people are employed, training is always going on. This is true even if the fact is neither recognized nor admitted. Wherever persons are inducted into a working organization and, at the time of entrance, do not know what they subsequently have to learn in order to perform the work which they are expected to do, a training activity is in operation. This training, often referred to as "breaking in" or "learning the ropes," may take many different forms. On the one hand it may be taken care of by having a competent and experienced employee teach the newcomer those things which he will need to know and give him the information which he should have in order to find his way around. At the other extreme it may be handled by paying little or no attention to the new employee, giving him a job to do and letting him figure things out for himself.

TRAINING ALWAYS Costs MONEY

In either of the possible extreme situations, the mere orientation of a new employee costs money. In the first situation, the cost is definitely associated with the time of whoever functions as an instructor. In the second situa-

4 PROBLEM OF TRAINING EMPLOYED PERSONNEL

tion the employer or his representative may think it costs less to let the new employee figure things out for himself. However, if someone were to make an estimate of the cost of having an inexperienced person rattling around in an organization, asking questions of almost anyone to whom he happens to take a fancy and thereby interfering with their work, it is almost certain that the second procedure would be shown to be the more expensive of the two.

WIDE VARIATIONS IN NEEDS ARE COMMON

These illustrations definitely refer to the induction into an organization of a new employee who is expected to do simple routine work at the start, or, if he has been employed to work on a job requiring special technical knowledge or skill, it is assumed that he has come into the organization technically prepared, at least so far as a knowledge of the fundamentals of his particular line of work is concerned. Under these conditions, the instruction, as such, would actually call for a comparatively small expenditure of time. In the great majority of cases, however, it is necessary to supply considerably more training for new employees than these simple illustrations suggest. For example, three months of intensive training for new recruits in city police departments is often regarded as the minimum necessary adequately to prepare newly appointed officers to perform the duties of patrolmen. For a great variety of jobs, the period of preparatory training will vary from one or two days to two or three weeks. However, it is often possible, during the initial breaking-in period, to assign the new employee to some simple form of practical work which is necessary and worth while. For skilled occupations, apprenticeship of two to five years or its equiv-

alent is necessary. For high-grade professional and technical work, at least several years of preparatory training and experience are a prerequisite for employment, after which persons who have a real professional attitude toward their work usually continue their training of their own initiative through reading, attempts to develop and apply new ideas to their work, and also through affiliation with engineering and other professional associations by which they maintain a continuing contact with the most recent developments in their fields.

THE PRINCIPAL AREA TO BE SERVED

In view of the complex situation presented, it is apparent that training, as such, may spread all the way from a brief period of introduction to a special job requiring only a few hours of instruction for low-skilled, routine workers, to a self-directed program which may last during the entire working life for high-type professional, scientific and executive employees. In between these two extremes, the principal problems of in-service training are to be found. The fact that the great majority of employees will not, of their own initiative, follow through with a continuous program of training and put forth the effort necessary to keep growing on the job is one of the important reasons why it becomes necessary to provide in-service training opportunities and set up training programs for employed workers.

TRAINING COSTS ARE INESCAPABLE

As indicated in the preceding paragraphs, training, in whatever form it may be carried on, always costs money. It is also true that training, however inefficient it may be,

6 PROBLEM OF TRAINING EMPLOYED PERSONNEL

is going on in every organization where there is any turnover. It is a problem which cannot be eliminated even if its existence is ignored. The costs associated with training are inescapable.

TWO DEFINITE FIELDS OF TRAINING

So far as specific training for the performance of work is concerned, it may be divided into two categories: (1) pre-employment training, and (2) post-employment training. Pre-employment training involves all the intricate and complex problems connected with vocational guidance and occupational preparatory training on a wide variety of levels. Its scope ranges all the way from the work of vocational schools dealing with pupils of high school age who have never had jobs, to courses offered by technical, professional, and graduate schools which are attempting to prepare higher-age groups for professional careers. The importance of this field of training is not intended to be minimized in any way by omitting a discussion of its problems from this book. It is merely desired to point out that this discussion of training procedure is limited in its scope to a consideration of the problems involved in the training of *employed workers*. Post-employment training is designated by a number of different titles, such as, extension training, training on the job, in-service training, and professional improvement.

The line of demarcation as between *pre-employment* training and *post-employment* training is determined solely by the employment status of the persons being trained. If the training is given prior to employment, it is pre-employment training. If it is given to employees who have the status of employed workers, it is post-employment training.

TWO PRINCIPAL CLASSES OF IN-SERVICE TRAINING

Practically all examples of post-employment, or in-service training programs, can be grouped into two * principal classifications: (1) preparatory training subsequent to employment and (2) extension training. In the consideration of these two classifications, which are based upon the principal general objectives to be recognized, it should be noted that they are entirely independent of the type of organization which may be utilized in connection with their operation. Different types of organization are discussed in another chapter, with respect to some of the principal advantages and disadvantages which should be considered in connection with the particular objectives to be attained under a wide variety of working conditions. The two principal classes of in-service training programs are now discussed.

PREPARATORY TRAINING SUBSEQUENT TO EMPLOYMENT

In training programs which fall within this classification, the general objective is to train new employees in the duties which they will be expected to perform and to supply them with the information which they will need as employees, including the special rules and regulations under which they will work.

Training courses or programs of this type are justified because of any one or more of the following conditions:

1. No public or private schools offer specific training for the field of employment represented.

* Refresher courses, sometimes referred to as a "type" of in-service training, are more correctly defined as a special type of organization for providing extension training.

8 PROBLEM OF TRAINING EMPLOYED PERSONNEL

2. Agencies which do provide pre-employment training do not supply a sufficient number of qualified persons to meet the demand.
3. Many features of the work are entirely new; hence it is necessary to train a working force *de novo*.
4. The nature of the work is such that it is impracticable to provide training for it on a pre-employment basis.
5. The work is of such a highly specialized nature that there is only one possible employer.
6. Emergency conditions make it necessary to increase, considerably, the number of workers available.

These conditions are discussed in some detail in the paragraphs that follow.

No public or private schools offer the training needed. Illustrations of this condition are found in the work of paid fire departments, city police departments, and many other lines of public employment. In the federal service, the work of the agents of the Federal Bureau of Investigation (commonly referred to as the "G-Men") represents a type of service for which no outside agency provides the special training required. Many other illustrations might be cited, but those mentioned are perhaps sufficient to illustrate types of employment where no public or private schools offer specific training which is adequate to equip persons to meet the job requirements.

Inadequate supply of trained individuals. Where outside agencies do provide reasonably adequate training, but conditions are such that there is an insufficient number of trained men to meet the demand, the situation is usually due to unexpected or emergency conditions. Such a situation is illustrated at the present time by the shortage of

young naval architects and marine engineers. Specialized engineering training for these fields as offered by a very few schools is normally adequate to supply the opportunities for employment. However, with a big program of naval construction confronting the Navy Yards and private shipyards, it has been found necessary to organize in-service preparatory training for young technical graduates who have been trained in other fields of engineering, in order to secure a sufficient number of junior naval architects and junior marine engineers to perform the work to be done.

Many features of the work entirely new. Especially during recent years, many new types of more or less specialized employment have been developed in connection with the work of the federal government. The work of the Home Owners Loan Corporation and the Social Security Board serves to illustrate this type of situation. Many features of the work of these organizations were new; consequently it became necessary to institute training programs specifically set up to train employees in the performance of new and specialized duties for which no previous experience constituted full preparation.

Pre-employment preparatory training sometimes impracticable. It often happens that the nature of the work to be done is such that it is impracticable to provide training for it on a pre-employment basis. In such cases, apprenticeship, which often consists of working with an experienced man, is the only practicable method of providing training. Many of the construction trades present this problem. In the field of naval construction, the mold loftsmen's and shipfitter's trades illustrate occupations for which adequate preparatory training cannot be given except on the job, working under the supervision of thoroughly competent men who function as instructors.

10 PROBLEM OF TRAINING EMPLOYED PERSONNEL

Highly specialized work with only one or a very few employers. Another type situation which justifies the giving of preparatory training subsequent to employment is found where the work is highly specialized and there is only one, or at least a very few, possible employers. Such a situation is exemplified by telephone installers and trouble men in the field of private employment, and fire-alarm operators, prison officers, or water-works employees in the field of public employment. In each of these cases, opportunities for employment are to be found only with a private organization which covers the entire field, or with some unit of government. In all these, and in many similar situations, the only practicable and efficient method of providing preparatory training is within the organization concerned and subsequent to employment.

Emergency conditions. The sixth type situation is associated with emergency conditions which make it necessary greatly to increase the size of working groups in the shortest possible time. When such a situation prevails, the need may obviously be met for certain occupations, and to some extent, by setting up outside training agencies to take care of the demand. For many occupations, however, it will be found necessary to operate a program of preparatory training subsequent to employment. In many instances, this training will be of the "conversion" type. This means that the training and experience of each individual would be utilized to the fullest possible extent in connection with preparing him to perform some specific form of work which needs to be done. Under these circumstances, a high degree of specialization is unavoidable in the interest of getting the necessary work done—a condition which might not be desirable under normal operating conditions.

EXTENSION TRAINING FOR EMPLOYED PERSONNEL

Training programs which have as their general objective the extension of the knowledge and skill of employees in an organization are found in many forms.

Some of the more significant conditions which make such programs necessary, are:

1. Changes in procedure which call for the use of new techniques, new types of equipment, or new or different materials.
2. Changes in the product, as in new designs or new models; or changes in the services rendered.
3. Recognition of a general need for upgrading in an organization, because of the tendency of obsolete practices to persist.
4. No outside agency can give the special training needed.
5. Many employees come into the organization competent to perform the simpler classes of work, but inadequately equipped to handle more difficult jobs.
6. The existence in the organization of specific situations which are more or less unsatisfactory, such as are discussed in some detail in Chapter II.

In discussing these conditions which indicate the need for extension training for employed personnel, it is assumed that all training of this type is functional in its purpose. In other words, the objective of in-service extension training is to *bring about improvement in the performance of work* rather than to extend the employee's general education. The typical conditions which suggest the need for training programs of this class are discussed in the following paragraphs.

12 PROBLEM OF TRAINING EMPLOYED PERSONNEL

Changes in procedure. It often happens that changes in office or plant procedure are made necessary by changing conditions. The development of new techniques, the utilization of new equipment and devices, and new or different materials may force more or less radical changes in procedure. This condition is illustrated by the use of new methods of communication such as the radio by police and fire departments. In the government service it is illustrated by the need for bringing the methods of accounting as practiced in many of the executive departments into conformity with the system of accounting used by the General Accounting Office. In a hotel or a large retail store it is illustrated by the introduction of bookkeeping machines which displace the older methods of bookkeeping. In the field of transportation, the change from steam locomotives to electric locomotives and the increasing use of Diesel power illustrate change in procedure which call either for extension training for employed personnel, or the laying off of old employees and the addition of new ones who have been trained in the newer methods and techniques.

Changes in the product or services rendered. When a manufacturing concern brings out a new product, based upon new principles and involving considerable change in the design and methods of manufacturing, the need for a certain amount of extension training for the working force is clearly illustrated. Also, often, there is need for some extension training for those who are responsible for servicing and marketing the new models. The automobile, radio, refrigeration, aviation, and air-conditioning industries offer numerous examples of this condition.

In the field of public service, new legislation often places upon established agencies of government responsibility for new or different types of service. These new services can

be satisfactorily supplied in proportion as the employees who will render them have been adequately trained to meet the new job requirements. Illustrations of this are found in connection with the administration of wage and hour legislation and also in connection with the nation-wide expansion of the federally aided program of vocational education.

When a city fire department takes over the responsibility for salvage work, formerly assumed in a number of cities by the Underwriters, a definite need for some extension training for the fire department personnel immediately becomes apparent. In the field of law enforcement, it is perfectly obvious that the problem of regulating traffic in cities has resulted in a need for services on the part of police officers which are very different from those expected even a few years ago.

These rather scattered illustrations of some of the effects of changed conditions upon the jobs of employees who were fully competent, under conditions which formerly prevailed, indicate that there is a continuing need in most occupations for extension training to enable employees to adapt themselves to changing job requirements brought about by changes in the products produced or in the services rendered.

A few additional examples to illustrate further this condition may be cited:

1. Changes in building construction have greatly modified the requirements upon men employed in the construction trades.
2. Changes in ship construction directed toward reduction of fire hazards have resulted in the use of metal in many places where wood had been used until very recently.

14 PROBLEM OF TRAINING EMPLOYED PERSONNEL

3. Copper tubing is rapidly displacing galvanized iron pipe in water-service installation.
4. Electric welding is being used increasingly in ship construction, bridge building, and other forms of steel construction in lieu of riveted joints.
5. Reciprocating steam engines, except in smaller units for special purposes, have largely been displaced by steam turbines and internal-combustion engines.

A general need for upgrading. The existence of a general need for upgrading depends largely upon the degree to which the organization concerned has to meet competition. Because of this, public agencies are, as a rule, more likely to be in need of a general jacking up than are business and industrial organizations. Here are a few illustrations of conditions which indicate the general need for upgrading in an organization.

1. A government office or bureau has been operating for a considerable period of time, following a standard routine. The work has changed very little over a period of years, and such changes as have occurred have taken place quite slowly. The employees are in more or less of a rut, and the rut appears to be getting deeper. The costs involved in carrying on the work are too high in proportion to the results apparent. So far as anybody knows, there are no understudies for the more important positions.

2. A city fire-alarm bureau has been allowed to deteriorate. Equipment is more or less obsolete. Extensions have been made in a makeshift and haphazard manner. No general plan has been developed to provide for the expansion of the system to correspond with the growth of the city. The records are incomplete and often inaccurate.

3. An industrial organization is loaded down with anti-

quated equipment. Methods that have been outmoded are still being followed. Profits have diminished and the morale of the working force is at a low ebb. The plant suffers from some of the usual results of absentee management. Obviously, the organization needs a general jacking up in order to prevent a shutdown and possible insolvency.

4. A store in a small community has been doing business for a long time with little competition except from mail-order houses. Nobody knows what the inventory is. The cost of doing business is not known. Prices are fixed at whatever the traffic will bear.

These examples serve to illustrate marginal situations where conditions are so bad that some change is almost inescapable. While a training program to effectuate the general jacking up objective is clearly indicated, it would seem to be obvious that much more than that would be necessary. More efficient administrative management and better operations management would be fundamentally necessary in each case. In carrying out newer and more progressive policies, however, training objectives other than those associated with jacking up the organization would have an important place.

Outside agencies cannot provide the training. In many cases, outside agencies cannot provide the extension training needed by employed workers. There may be a number of reasons for this. For example, the character of the work may be such that it is impossible to duplicate the working conditions apart from the job. Also, the work done may be of such a nature that it would be wholly impracticable to set up a replica of it for training purposes outside the organization. Extension training for firemen and police officers serves to illustrate these conditions. A more important reason, however, why it is inad-

16 PROBLEM OF TRAINING EMPLOYED PERSONNEL

visable to attempt to provide a great deal of the extension training needed by employees, separate and apart from the job, is that the best results are likely to be obtained when supervisors and foremen in charge of employees function effectively as *instructors on the job*.

At the time of the World War there was a marked tendency to establish training departments in industrial organizations. While these departments were primarily concerned with the training or breaking in of new employees, they were also, in many instances, expected to take care of all the training needs of the organization. This sort of set-up tended (theoretically) to relieve production foremen and squad supervisors of all responsibility for training, and, to some extent, to divide the responsibility for the quality of work. In later years, the tendency in industry to place the responsibility for training definitely upon the foreman or supervisor in charge of the work has been almost universal. In other words, the theory has been accepted that it is better to place the responsibility for training where it naturally belongs than to divide it between the foreman, or supervisor, and a training officer. When the principle is once accepted, the obvious point of attack, in order to bring about improvement, is to train the foremen and supervisors adequately to meet this responsibility. The situation as it has thus developed has stimulated widespread interest in plans and procedures for improving foremanship. One of the developments in this field which has been remarkably successful is the conference procedure.*

Employees only partially qualified. In practically all organizations where there is very much turnover, often

*For a detailed discussion of the conference as an educational procedure, see *Foremanship and Supervision*, by Frank Cushman, Second Edition, 1938, John Wiley & Sons, New York.

persons are employed who are able to do certain classes of work or to perform some of the simpler duties required, but are not sufficiently equipped to handle many of the more important types of work. This condition indicates the need for extension training on the job. In general, it is entirely logical for the supervisor or foreman in charge to recognize and accept the responsibility for upgrading employees in this category. In practical situations, however, the problem is simplified if such employees can have their ambitions aroused sufficiently to take advantage of whatever opportunities may be available on the outside, in order to increase their knowledge and skill to the extent needed to justify their supervisor in assigning them to more important and responsible work. Under these conditions, a certain amount of *instruction* is secured by employees outside the organization, but the application of this instruction is made *on the job*. Because of this, the foreman or supervisor is responsible for the *training* involved.

To illustrate this point, a case may be cited, as follows: A stenographer employed in the government service equipped herself for promotion to the position of statistical clerk by taking a course in statistics at a local university. She discussed the matter with her official superior who approved of the idea. Later, when the opportunity came, she was given work to do which involved greater responsibility and in which she was able to apply the instruction she had received. The *training*, therefore, was carried on under the supervision of the official superior, even though the instruction had been secured outside the organization.

In organizations which employ a large number of persons, it is sometimes justifiable to form instructional groups, made up of those who are insufficiently trained to assume the responsibilities involved in the performance of the

18 PROBLEM OF TRAINING EMPLOYED PERSONNEL

higher grades of work, and conduct a training program with regard to the objectives indicated. The operation of such a program on working time can be justified when there is a surplus of persons with inadequate qualifications and a shortage of persons equipped with high qualifications, while at the same time the efficient operation of the organization is hampered because of the inadequate number of thoroughly qualified employees.

Specific situations which are more or less unsatisfactory. A list of some fifty type situations, most of which are susceptible of improvement through well-planned and efficiently operated training activities, may be found in Chapter II. Suggested ways of securing improvement are discussed in considerable detail elsewhere in this book.

A FEW IMPORTANT FALLACIES WHICH SHOULD BE RECOGNIZED

In connection with this preliminary discussion of the problem of providing training for employed personnel, it appears to be worth while to discuss briefly some of the commonly accepted fallacies which, to the extent to which they are permitted to influence the thinking of those responsible for a training program, may prevent the obtaining of satisfactory results.

THE IDEA THAT MAKING INFORMATION AVAILABLE CONSTITUTES TRAINING

The first of these fallacies is that satisfactory results may be expected from a training program where the so-called training is limited to making information available.

There is a wide difference between the possession of

information and the development of ability to use that information intelligently in connection with the performance of work. A series of informational meetings or lectures, in connection with a training program, may have a very high value, if information, which the recipients need in their work and which they do not have, is thereby made available to them. If, however, nothing further is done to stimulate or encourage those being trained to develop their ability to apply the information in the everyday performance of their work, but little in the way of results of practical value can fairly be expected.

To illustrate this point, it is perfectly clear that no sensible person would expect to get satisfactory results in training an inexperienced man to drive an automobile by limiting the training to a series of talks or lectures on traffic regulations and how a car should be driven. Obviously, more than this would be necessary. However, when dealing with a need for training which involved a large number of employed individuals, the same person might, for example, set up a series of informational lectures for supervisors on the principles of efficient supervision and then try to persuade himself that he had put over a training program. Under these conditions, some of the supervisors might be expected to work out ways and means of applying the principles in their work. Many of them, probably a majority, would make some bad mistakes and then try to forget about the principles which had been expounded. A few would probably go along in the same old way without changing or modifying their procedures.

In view of these probabilities, it is obvious that a definite effort to assist the group of supervisors to develop some degree of ability to apply and actually to use the information supplied would not only be desirable—it would also

20 PROBLEM OF TRAINING EMPLOYED PERSONNEL

be necessary, if the training program were to amount to very much.

THE BELIEF THAT IF GENERAL PRINCIPLES ARE TAUGHT, INDIVIDUALS WILL MAKE THEIR OWN APPLICATIONS

The second fallacy is that satisfactory results may be expected from teaching *general principles* and that individuals will make their own applications of general principles when dealing with specific problems.

The acceptance of this fallacy is probably due to the fact that a few exceptional individuals are able to do this. The majority of people, however, learn most effectively by acquiring ability to do specific things first. At a later period, they are better prepared to understand the general principles involved in the work which they have learned to do.

As an illustration, the teaching of the general principle that training programs should be based upon a study of actual training needs and an analysis of specific requirements would hardly be expected to enable a person to work out acceptable job analyses and subsequently to outline a functional training program for an organization. After having worked through the necessary stages of the development of a training program, however, this person would be in a position to really appreciate the principle as stated.

THE IDEA THAT SATISFACTORY RESULTS WILL FOLLOW IN- STRUCTION BY PERSONS UNFAMILIAR WITH THE WORK

A third fallacy which, if accepted, is likely to discount the values which are expected to result from a training program is that satisfactory outcomes may be expected

when the instruction is given in the language of, and from the viewpoint of, technical experts.

There usually prevails more or less of a tendency to ignore the fact that every occupation has its own vocabulary or jargon. This situation is illustrated in the professional field to just about the same degree as it is in all other occupations. When instruction is given to a group in the language of some occupation other than the one in which the members of the group or class are employed, its value and effectiveness is always discounted.

An illustration of the acceptance of the fallacy under discussion is found where a college professor of chemistry is engaged to give a series of lectures to firemen on the chemistry of fire and the chemical hazards encountered in fighting fires. To the extent that the instruction is given in highly technical language—the kind which the professor is accustomed to using—it is likely to go over the heads of the group. To that extent, its value for training purposes will be discounted. Under these conditions, the fact that much of the language used would be unintelligible to a group of practical firemen would not be receiving due consideration. Numerous other illustrations might be given. To have an electrical engineer teach a class in practical mathematics for electrical construction workers or to have an expert accountant engaged to train a group of operators in the use of bookkeeping machines might be cited as additional examples to illustrate the point. In all such situations, the instructor would probably use the technical language of *his own* occupation and, to the extent that he did this, the immediate functional value of the instruction would be discounted.

22 PROBLEM OF TRAINING EMPLOYED PERSONNEL

THE IDEA THAT CONSTRUCTIVE OUTCOMES WILL RESULT WHERE INTEREST IS LACKING

A fourth fallacy, which is accepted to a far greater extent than it should be, is a belief that training which is forced upon employees will result in satisfactory outcomes. Executives who utilize fear in various ways, in attempting to force employees to participate in training programs, ignore the fact that the first prerequisite for constructive results is *interest* on the part of the participants. The principal interest factors which are available to management, together with comparisons of their relative values under different conditions, are discussed in the chapters which follow. Where penalties or actual or implied threats are used at all, in an attempt to develop interest, they should be used only as a last resort and after all other possible means of achieving the desired results have been found to be ineffective.

SOME TYPICAL MISTAKES

Because of the acceptance of such fallacies as those which are discussed briefly in the preceding paragraphs and for other reasons, many mistakes have been made in connection with attempts to operate training programs. Some of the more prominent of these are:

1. The imparting of information has been depended upon to give practical results when actual training on the job was needed.
2. The teaching of general principles has been regarded as adequate preparation for meeting specific job requirements.
3. Technical experts have been utilized to give instruction to groups to whom much of their language was unintelligible.

4. Compulsory attendance upon informational lectures or other inadequate means for training has been relied upon to too great an extent.
5. Topics have been selected and programs set up without sufficient effort having been made: (1) to discover the actual training needs, and (2) to choose topics in which those to be served were really interested.
6. General courses instead of specific courses have been established because of the belief that specific training was too narrow to have much value.
7. Attempts have been made to provide functional training through *general* courses so that large groups might profit from the same curriculum.
8. Instructors have been secured outside the organization to too great an extent, thus depriving supervisors, foremen, and executives within the organization of real opportunities to develop their ability to meet their instructional responsibilities.
9. Training programs have been removed from the working environment, and, in some cases, farmed out to outside agencies.
10. Objectives related to the personal advantage or interests of employees have been confused with functional training objectives. This has sometimes increased the overhead to a point where the entire training program was endangered.
11. Sufficiently clear distinctions have not always been made between appreciational objectives and the development of *doing ability*.
12. The importance of "background" courses has often been greatly exaggerated.

Special ways and means of avoiding these and other serious mistakes in connection with the planning, organi-

24 PROBLEM OF TRAINING EMPLOYED PERSONNEL

zation, operation, and maintenance of training programs for employed personnel are discussed in considerable detail in the chapters which follow.

SUMMARY OF PRELIMINARY DISCUSSION OF IN-SERVICE TRAINING

In summing up this preliminary discussion of some of the problems involved in providing training within a working organization, it is desired to point out, as clearly as possible, that the conditions which indicate the need for any organized form of training for employed personnel develop in an indeterminate number of different forms. While there are no standardized courses of study which will meet all needs and no ready-made solutions to all the problems which will be encountered, there are at least a few principles that have been developed through experience, which can be referred to in dealing with specific situations. The discussions presented in later chapters are intended primarily to stimulate analytical thinking with respect to problems of training, and to suggest constructive methods of dealing with them.

The discussion in this chapter is not meant to be exhaustive. Instead, it is intended to present a few ideas for the consideration of executives and other individuals who, because of their official positions, have definite responsibilities for the training of their subordinates.

The following chapter deals with the problems of general planning. It is believed that the fifty or more type situations which are listed for their suggestive value will assist executives better to size-up their training problems. Also it is hoped that the more detailed discussion of some of the type situations will be of constructive value.

A training program for employed personnel should be so organized and operated that through its functioning at least some of the problems of line executives are simplified rather than made more difficult of solution. Hence, a training department or division, if provided, should definitely be designated as a staff activity. It should function on a service basis for executives who have the responsibility for getting work done. In addition, the training program, however organized, should be regarded as a business proposition. It should be worth more to the organization than it costs to run it. In subsequent chapters will be found some practical suggestions for providing training for employed workers so as to accomplish or at least to make headway toward these outcomes.

ABSTRACT

In this chapter, the importance of clearly identifying the needs for training is emphasized. A working organization is likened to a machine. If a machine is not operating smoothly, the obvious thing to do first is to locate the source of the trouble. The second step is to remedy it. If a gasoline engine is running irregularly because of a cracked spark plug, it won't help matters much to change the oil in the crank case. In the same way, if the responsibilities of individuals in an organization are neither clearly defined nor well understood and difficulties arise in carrying on the work, the situation will not be helped materially by setting up a course of lectures on business administration.

A sample list of fifty-four type situations which may prevail in a working organization is given and discussed in terms (1) of those situations which may easily be recognized by an executive and (2) of those which can best be ascertained through conferences with first-line supervisors.

CHAPTER II

Identification of Need and Preliminary Planning

THE NEED for a training program is always indicated by the existence of some particular condition or group of conditions, or by some situation which, if improved or modified, will increase the efficiency with which the work of an organization is performed. To the extent to which these situations or conditions are properly sized up it becomes possible to formulate training objectives and to make plans for a training program which will be designed to bring about improvement in definite and specific ways.

The general operating efficiency of any organization is obviously dependent upon the proper functioning of all its component parts. The way to bring about the proper functioning of these component parts is to deal with the unsatisfactory situations and conditions which affect each part in such a way as to obtain specific improvement in their functioning. Any serious defect in the proper functioning of any essential part is quite certain to cause an unsatisfactory performance on the part of the organization as a whole.

MECHANICAL ANALOGY

Any working organization in private industry or in the public service may, for purposes of illustration, be re-

garded as a machine. It is probable that there is no machine more widely used by individuals in this country than the gasoline engine; hence that machine can illustrate some of the points mentioned in the preceding paragraph.

The satisfactory operation of a gasoline engine clearly depends upon the proper functioning of many component parts. Any single one of these essential parts which fails to function as intended seriously discounts the efficient operation of the whole machine, even if it does not stop it entirely. A cracked spark plug, a valve that sticks, water in the gasoline, faulty ignition, or a leaky carburetor, each may cause an otherwise good machine to operate in a most unsatisfactory manner. To bring about improvement in operation, it is obviously necessary to repair the thing that is not working properly. In doing this, a competent mechanic first locates the defect and then does whatever is necessary to correct it. If faulty operation is caused by a broken or frayed wire, the trouble will not be corrected by changing the oil in the crank case. If the valves and bearings are badly worn, the engine will not be made to operate satisfactorily and carry its load by cleaning the outside parts and giving them a coat of paint.

TENDENCY TO PROVIDE PROGRAMS OF A GENERAL NATURE

Cases are not unknown where training programs have been introduced into organizations in which there was a reluctance to identify specific situations needing improvement to the extent necessary for the formulation of suitable objectives. In such cases, courses of a *general* nature are usually referred to as *education* rather than as *training*. For all practical purposes, such "shot-gun" courses are about as helpful in bringing about definite improvement

in the performance of work as giving the building a coat of paint on the outside would be. If a ship has lost her propeller or has a broken shaft, it doesn't help any in preparing her for a voyage to haul her out and paint her bottom, even though the painting may in itself be a worthwhile job. Afloat and tied up at her wharf, the ship will look all right, but she will not be able to put to sea under her own power until the important deficiency is remedied.

SPECIFIC SITUATIONS SHOULD BE RECOGNIZED

In connection with the recognition of a need for improvement, the executive immediately responsible for the operation of a working organization should realize that the logical point of beginning is to identify specific situations that are not satisfactory. The next step for him is to define clearly in his own mind conditions which he would like to have improved.

Some of the situations which indicate a need for training can be recognized by the average executive without any help. Others can be identified through a conference of heads of departments. Still others will often fail of recognition unless the minor executives—those immediately responsible for the supervision of workers—are brought together on a conference basis. Under favorable conference conditions,* many unsatisfactory situations will be identified which would probably not otherwise be brought up for consideration. Also, much data of value will be derived from the work of such conferences which are likely to have a very high value in connection with the job of outlining

* See Cushman's *Foremanship and Supervision*, Chapter V, Second Edition, 1938, John Wiley & Sons, New York.

30 IDENTIFICATION OF NEED AND PLANNING

some of the objectives of a training program. A man who has the supply of common sense necessary to handle this preliminary phase of the job of planning a training program without becoming a disturbing factor in the organization will be able to deal with the problem objectively. In many situations, an outside man, who doesn't know too much about such petty jealousies and rivalries as may exist in the organization and who is entirely free from any influence which plant or office gossip may have, is at a distinct advantage.

TYPE SITUATIONS WHICH MAY INDICATE THE NEED FOR A TRAINING PROGRAM

The only basis upon which the investment of money in an in-service training program can be justified is that it is directed toward bringing about improvement in the performance of the work of the organization. It therefore follows that, in advance of setting up a program, a definite need for improvement should be identified. In other words, specific situations which are more or less unsatisfactory should be recognized. Some of these situations will be susceptible of improvement at any given time. Others may not be, at least at a particular time. The working conditions, the predilections of the executive in charge, the possible temporary nature of the conditions, and many other factors will have to be carefully weighed in order to arrive at sound conclusions concerning the feasibility of setting up a training program.

At this point, it should be clearly understood that no attempt is made here to discuss or even to present *all* the type situations and problems with which an executive in

responsible charge of a working organization is confronted. Such an attempt would cover all phases of administrative management and would be entirely beyond the scope of this book. The intention here is to discuss, in a constructive manner, a few type situations which experience has shown may be susceptible of improvement through some form of a training program for employed personnel.

In order to suggest a line of analytical thinking which may be followed at this stage of the planning job, a list of type situations, some of which rather clearly indicate the need for in-service training, follows:

- Accidents to employees, excessive number of.
- Ambition, apparently lacking among employees.
- Authority of supervisors not commensurate with their responsibilities.
- Backed up, supervisors not adequately.
- Buck passing, excessive.
- Carelessness, too much.
- Complaints (of employees), not satisfactorily handled.
- Cooperation, poor between individuals and departments.
- Data, business, supervisors or foremen unable to interpret.
- Duties, workers not adequately instructed on.
- Foreigners, working group includes many.
- Friction and misunderstanding in working group.
- Gossip, excessive plant or organization.
- Interest, too many examples of lack of.
- Job pride, absence of.
- Maintenance, cost of too high.
- Material, excessive spoilage of.
- Pep, organization lacks.

32 IDENTIFICATION OF NEED AND PLANNING

- Policies (of organization), too many employees ignorant of.
- Policies, uncertainty as to.
- Procedure, frequent changes in.
- Product, too large a percentage fails to meet standards.
- Production, cost of too high.
- Promotion, too few in organization qualified for.
- Promotions, made without sufficient preparation.
- Reports, importance of not recognized by those who make them.
- Responsibilities, of departmental supervisors very large.
- Responsibilities, joint, not well discharged.
- Responsibilities, lack of understanding of.
- Responsibilities, not clearly defined.
- Responsibilities, overlapping.
- Routine, new employees not adequately informed as to.
- Safe working practices, not sufficiently stressed.
- Seasonal work, skeleton organization for.
- Short-circuiting of minor executives.
- Staff members, hampered by lack of knowledge of how work is done.
- Star performers, too many of them in the organization.
- Supplies, wastage in use of.
- Team work, lack of effective.
- Technical knowledge, employees lack needed.
- Tools and equipment, loss and abuse of.
- Training, costs of too high.
- Transfers, excessive number of requests for.
- Transfers, frequent.
- Turnover, high.
- Work, defective—goes out unchecked.
- Work, flow of—unsatisfactory between departments.

- Work, highly specialized.
- Work experience, supervisors lack adequate.
- Work force, anticipated expansion of.
- Work force, anticipated reduction of.
- Workers, competent ones hard to get.
- Workers, need to be brought up-to-date.
- Working relationships, not sufficiently close between executive and his staff.

PRELIMINARY DISCUSSION OF TYPE SITUATIONS

Obviously, an organization in which very many of these type situations existed at any given time would be in a bad way. No business organization could continue to operate for any great length of time if it were affected by any considerable number of them. However, in the public service, where there is no competition, many of these situations often exist, whether the fact is recognized or not.

Many of these type situations represent the sort of thing that supplies subject matter for the "grapevine telegraph"—and many of them tend to stimulate double-dealing, deceit, buck passing, evasion of responsibilities, all-round inefficiency, and even hatred between individuals and groups. In a specific situation it often requires courage even to identify some of them, especially if the person who has the responsibility for planning a training program is a member of the organization concerned. However, as the improvement of unsatisfactory situations and increased efficiency in the performance of work represent the objectives of a training program, it should be realized that there are ways in which many of these situations may be handled in a tactful manner so as to offer a possibility of obtaining constructive outcomes. Many times, constructive handling

34 IDENTIFICATION OF NEED AND PLANNING

may make it necessary to avoid even mentioning, directly, the specific objectives or the *real* objectives of certain phases of the program.*

It has already been pointed out that certain type situations, which may indicate the need for training, can usually be identified by the average executive without any help. Other type situations among those listed are most readily identified in conferences with heads of departments. Many of the most serious situations, however, are more likely to be revealed through conference discussions with groups of minor executives who are in immediate charge of working groups within the organization.

THE JOB OF THE DIRECTOR OF TRAINING

An executive in charge of the entire work of an organization should have sufficient confidence in the ability of his man in charge of training activities to permit him to *operate* without interference. When this condition prevails, it becomes possible for the training director to plan and carry on his program in such a way as to offer the greatest probability of obtaining constructive results. A director of training who knows his job and understands his proper function *does not assume executive authority*. He handles problems in such a way as to make it entirely clear to all concerned that he is a *service man*. He always arranges things so that all executive *authority* is exercised through the proper channels, as he knows that his usefulness will be heavily discounted if he attempts to exercise authority in his own right. Only to the extent to which he can

* A practical discussion of direct and indirect objectives may be found in Cushman's *Foremanship and Supervision*, Chapter X.

secure and hold the confidence of members of the working organization from top to bottom is he likely to function efficiently on his job.

TYPE SITUATIONS WHICH AN EXECUTIVE MAY RECOGNIZE WITHOUT ANY HELP

A few samples of type situations which an executive may recognize without any help are:

1. High unit cost of production.
2. Difficulty in finding persons in the organization who are qualified for promotion.
3. A large number of requests for transfers.
4. Defective work goes out unchecked.
5. Too many accidents to employees.
6. High rate of turnover.
7. High maintenance costs.
8. Anticipated expansion or reduction of work force.
9. Frequent changes in procedure.
10. Organization lacks "pep."

This list is not intended, in any sense, to be complete. It merely suggests type situations which would easily be recognized and sized up by an executive at the head of an organization. By means of reports, contacts with heads of departments, personal observation, and many types of data which are available to him, the executive becomes aware of situations affecting the general status of the business of which he is the responsible head. Each of these situations presents a problem or a series of problems for him, and each one may have a number of possible solutions. The success of the executive on his job depends very

36 IDENTIFICATION OF NEED AND PLANNING

largely upon the degree to which he finds the best possible solution, or at least a good one, for each problem. A discussion of some of these situations is included for whatever suggestive value it may have.

HIGH UNIT COST OF PRODUCTION

The term "production," as here used, refers in a broad sense to the output of goods or services by a working organization. Where the output is of a tangible nature so that it can be counted, weighed, or otherwise measured, the problem of figuring unit costs is a relatively simple one. However, in an organization which is primarily responsible for rendering service, without any tangible output in the ordinary sense, there are still costs of a general nature and, in most instances, unit costs can be figured. To illustrate, the efficiency of a municipal fire department is measured by such things as (1) the effectiveness of fire prevention methods, (2) the performance of the department in extinguishing fires when they occur, (3) the prevailing local rates for fire insurance, and (4) the annual per capita fire loss. If the fire insurance rates are abnormally high and the annual per capita fire loss is also high and remains so over a period of years, the situation corresponds, in a way, to that of an industrial organization in which there prevails a high unit cost of production. Elements of similarity can also be identified for a police department, the city water works, the highway department, the traffic bureau, the department of building inspection, and practically all other fields of public service.

In view of what appears to be an abnormally high unit cost of production, one executive might decide to reduce wages and salaries. Another executive might decide that

the overhead was excessive—too much non-productive labor—and that consequently the organization should be simplified. In still another case the executive might decide to obtain the services of an efficiency engineer to make an analysis of costs and submit recommendations for changes in the organization and new methods to be followed in carrying on the work.

Many other possible ways of dealing with the problem suggest themselves. Of all the possible situations mentioned, however, none of them indicate that the hypothetical executive who might adopt them had much confidence in such values as might be derived from a training program for his foremen, supervisors, and other minor executives. An executive who did have confidence in the effectiveness of in-service training might organize a program of conferences for his department heads and foremen, the objective of which would be to make an analysis of the operations carried on, identify cost elements, and figure out ways and means of keeping them under better control. Also, in connection with such an analysis, practical and effective incentives might be found which would function in making department heads and foremen more definitely aware of their responsibilities for controlling costs, each within his own area of management.

It may be noted that this unsatisfactory situation—high unit cost of production—might be the result of a number of other specific conditions which were susceptible of improvement, such as low machine production, low productivity of workers, or excessive spoilage of material. Such a list might be extended indefinitely to include poor planning of work, obsolete equipment, antiquated methods, inefficient performance of work, poor morale, and a long list of other factors. A careful study of these conditions would

probably suggest to an executive a variety of possible ways of dealing with the problem somewhat similar to those already mentioned.

An executive who was a fairly recent graduate of a technical course might decide that, if all members of his staff were to take a course in production engineering, the situation would be improved. He would probably be influenced, perhaps subconsciously, by values which he would associate with education, *per se*, and also by the training which he himself had received. If this decision were carried out, there would be a number of discounting factors to be reckoned with, of which the following are samples:

1. Because of the *general* nature of such a course, it would be necessary for the persons taking it to work out for themselves the possible application to their problems of such general principles as were considered.
2. If the course were offered as a university extension class on the leisure time of the persons to be served, the instructional group would probably be made up of representatives of a number of other companies and organizations. This would reduce the opportunities for the discussion of specific problems.
3. The instructor might have had no personal contact with the work of the particular organization from which the staff members were enrolled. He would therefore lack first-hand information, and his discussion of problems would necessarily be quite theoretical.
4. The course would probably be spread out over a fairly long period of time, say two group meetings per week; hence the application of new ideas and the adoption of improved procedures would lag considerably behind the decision to bring about improvement.

Because of these conditions, it appears that, so far as utilizing some form of training to bring about a lower unit cost of production is concerned, the best procedure for the executive in charge would be to make what headway was possible through conferences with heads of departments, foremen, and other minor executives in immediate charge of operations.

DIFFICULTY IN FINDING PERSONS IN THE ORGANIZATION WHO ARE QUALIFIED FOR PROMOTION

This situation is one which is easily recognized by an executive, especially when some key man is retired, or in some other way becomes separated from the organization. In general, it may be stated that where it is difficult to find persons in an organization who are qualified for promotion, the condition is likely to be the result of a short-sighted personnel policy. Efficiently managed organizations try to make provisions for personnel so that there will be no single individual who is absolutely necessary for the carrying on of the work. Both theoretically and practically it should be possible for any individual to drop out of an organization without wrecking it or seriously hampering its operation. Such a personnel plan calls for having understudies for all important positions, so that, when a key man is separated from the organization, all that is necessary is for the understudy to move up one notch.

In some cases, it is difficult to find persons in an organization who are qualified for promotion, because of the narrow-mindedness or selfishness on the part of individuals. Persons who are unwilling to make their "trade secrets" known to others are still found in many working organizations, both public and private. Such persons are afraid that, if

they make their ideas available to some understudy, they will thereby endanger their own job security. Hence they tend to become selfish and secretive regarding many things which they have learned as a result of their long years of experience.

Dealing with a specific problem of this sort may involve considerable difficulty and expense, as, for example, when a serious gap in an organization occurs because of the separation from it of some individual who has been doing specially important work. However, a training plan can usually be developed whereby repetitions of such an experience will not be very likely to occur in that particular organization.

One way to deal with this problem, from the standpoint of prevention, is to give promising employees an opportunity to grow on their jobs. However, it is particularly important to maintain a proper balance in this respect with regard to (1) the degree to which ambitious employees are encouraged to develop their abilities through training and the application of that training in their work and (2) the degree to which opportunities may be open for them to realize their ambitions when they are prepared for a higher grade of work. This is a difficult phase of personnel administration, and calls for a great deal of tact and good judgment in order to secure the best results and avoid creating dissatisfaction.

Considerable contact with many types of organizations, public and private, indicates that, for the most part, there is no surplus of persons in most organizations who are really qualified for promotion and the assumption of greater responsibility. There is always a surplus of persons who would like to get higher salaries and who may believe that they are qualified for a higher type of work. In addition

to this fact, however, every executive who has to build up an organization which involves picking properly qualified individuals to fill important key positions knows how difficult it is to find individuals who are really qualified to fill them.

A well-organized and efficiently operated training program offers one of the best possibilities for dealing with this problem somewhat in advance of the development of specific situations where promotions are called for. Such a procedure is based, in general, upon the assumption that one of the best ways to qualify a person for a higher position with increased responsibilities is to help him to become thoroughly efficient on the job which he has. The merits of this method of dealing with the problem have been demonstrated so many times that little argument in support of it appears to be necessary.

A LARGE NUMBER OF REQUESTS FOR TRANSFERS

Where this situation prevails, it may indicate a number of things, most of which are associated with poor personnel relationships or unfavorable working conditions.

Poor personnel relationships may be due to poor leadership on the part of the minor executives in immediate charge of working groups. Favoritism, lack of recognition, unfair decisions, unjust penalties, and similar evidences of poor leadership suggest some of the causes of a large number of requests for transfers from one department to another.

Unfavorable working conditions often have a bad effect upon the stability of working groups. Where the work is monotonous, uninteresting, dirty, or otherwise unattractive, a definite stimulus is thereby provided for employees

42 IDENTIFICATION OF NEED AND PLANNING

to desire a transfer to some other type of work. Another cause which is apparent on the part of a certain type of employee is a natural desire for new experiences and a reluctance to remain on a particular job for any long period of time.

The remedy for a difficulty of this kind appears to be to develop better personnel relationships in the organization, to make the working conditions as attractive as possible, and to improve the efficiency of supervision. In one organization, a foreman who was in charge of the least attractive department in the entire organization had less turnover than any other foreman in the plant. All the other departments, moreover, apparently offered better working conditions. But the foreman in charge of the hot, somewhat dirty, and unattractive processes carried on in his department was a better foreman from the standpoint of leadership than most of the others. Because of this leadership the men working in his department were not particularly interested in requesting a transfer to some other department.

DEFECTIVE WORK GOES OUT UNCHECKED

This condition in an organization is probably due either to a poor system of checking and inspection or to the fact that a good system is being poorly handled. The situation may be due to having too many irresponsible workers, to the supervisor's having too many duties to perform, or to the workers' being inadequately trained in the performance of their tasks.

Very often, one result of a poor, inefficient training program is that the persons trained are placed on the job with only a hazy idea of their responsibilities, and perhaps with insufficient knowledge of how to perform their duties.

The way to correct this situation is to bring the supervisors of all departments concerned together on a conference basis, analyze and study cases where defective work has gone out unchecked, identify, so far as possible, the causes of the mistakes and errors, attempt to fix the responsibility for them, and work out methods for preventing repetitions in the future.

Too Many Accidents

Too many accidents in a working organization is one of the situations most easily recognized by the executive at the head of an organization because of reports which, in the regular order of business, come to his attention. That an excessive number of employees suffer injury in the performance of their work may be attributed to a large number of causes. Among them may be mentioned ignorance on the part of the employee, lack of proper working facilities, improper use of equipment, and poor working conditions. Carelessness, due to monotony of the work, and faulty material are other possible causes.

Accidents may be due to inherent dangers involved in the work, as accidents to the fireman while on duty at a fire. They may be due also to the routine nature of the work itself as is illustrated in the case of a railroad switchman who made the proper adjustment of switches to get his train on to a side track, and then, when he saw the other train coming, could not remember whether he had set the switch properly. He threw it again and caused a bad collision.

Insufficient attention to safe working practices covering all jobs which involve any considerable danger of accidents to workers is difficult to excuse at the present time, because

44 IDENTIFICATION OF NEED AND PLANNING

of the vast amount of study that has been given to the prevention of industrial accidents.

In dealing with this problem at least one effective means is to bring the supervisors who are in immediate charge of working groups together on a conference basis for the purpose of analyzing cases and identifying, as clearly as possible, the cause or causes of accidents; the cost elements involved in each case; and the responsibility of the supervisor in charge. Suggestions as to how similar accidents might be prevented may be expected to develop in connection with the discussion.

Considerable experience in this field of work indicates rather definitely that a lack of understanding of responsibilities is one cause of accidents which can be materially reduced by a training program.

HIGH TURNOVER

High turnover may be attributed to many causes. In many cases, however, high turnover is due to the fact that the work is unattractive. It often happens that jobs fail to hold the interest of workers to the extent that they become reasonably well satisfied and consequently have no particular desire to try out some other job. High turnover may be caused by taking on unqualified persons to start with, or to poor or inefficient instruction concerning their duties, with the result that they become dissatisfied and drop out. High turnover may also be induced by lack of opportunities for promotion within the organization. Poor and ineffective supervision, unfortunate personnel policies, and bad working conditions are other common causes of high turnover. All these conditions are susceptible of analysis and constructive consideration in connec-

tion with a training program for supervisors in which the conference procedure is properly used.

HIGH MAINTENANCE COSTS

High maintenance costs often are the result of old or dilapidated equipment, extravagance in the use of supplies, abuse of equipment by careless or inefficient workers, failure to give equipment the proper care, and failure to make replacements in advance of actual breakdowns.

High maintenance costs may also be definitely due to poor instruction, some of the results of which are indicated in the preceding items. Often, high maintenance costs are associated with the lack of a sense of responsibility on the part of the minor executives in immediate charge of working groups.

One way of dealing with this problem is to place more responsibility for cost control upon the heads of departments and also to some extent upon supervisors or foremen in immediate charge of work operations. The best argument for this procedure is that it has been found to produce remarkable results when it was honestly applied, and the persons mentioned were definitely given managerial responsibilities within their respective areas, together with the authority necessary to discharge them.

ANTICIPATED EXPANSION OR REDUCTION OF THE WORKING FORCE

An anticipated expansion of the working force is ordinarily known by the executive at the head of an organization in advance of its being known by anyone lower down. Any considerable expansion in the working force can be efficiently handled by training selected employees to function, when required, as instructors in the types of work

46 IDENTIFICATION OF NEED AND PLANNING

in which they are competent. A somewhat detailed consideration of this problem is found in Chapter III; consequently it is not discussed in detail at this point.

An anticipated reduction in the working force which is expected to prevail over a period of years presents quite a different series of problems for the executive. In such a situation, morale is likely to suffer, and the tendency is for the better-qualified persons to seek employment elsewhere while those who are less competent hang onto their jobs as long as possible. To counteract this tendency, it may be worth while to expend considerable effort on a training program directed toward the building up of morale. One practical means of doing this is to provide training opportunities whereby an employee can broaden his base of employability. Concurrently with this, training to bring about improvement on all supervisory levels is both necessary and desirable. To the extent that employees leave a liquidating organization well qualified to make good in outside employment, rather than as discouraged and disheartened individuals out of a job, the morale of those who are retained is likely to be conserved.

FREQUENT CHANGES IN PROCEDURE

Seldom, if ever, are working organizations to be found which are in a static condition as to methods and procedures followed. The situation, as it exists practically everywhere, illustrates the truth of the statement, "There is nothing in this world which is permanent but change itself."

Changes in procedure are obviously recognizable by the executive at the head of a working organization, whether the field of operation is private industry or business, or

some phase of the public service. These changes may be due to new materials, new models, new and improved methods of doing work, modifications of the general nature of the job of the organization, and to many other causes, some of which have already been touched upon in Chapter I.

In dealing with problems of training resulting from changes in the product or in service rendered, three principal possibilities may be mentioned:

1. Executives and supervisors from the top down, including the first-line supervisors, should be adequately supplied with current information concerning changes.
2. An appropriate number of "key" men or supervisors should be thoroughly trained with respect to all matters of procedure, where practical changes in methods of work or operations to be performed are called for.
3. The key men or supervisors should be equipped to do a good job of teaching with the members of the working force who, in turn, will be expected to carry out the changes in doing the actual work of the organization.

To the extent to which these three essentials are well handled, changes in procedure should be accomplished with a minimum of disturbance in the organization. The more frequently important changes occur, the greater will be the need for giving the necessary attention to the efficient handling of the training problems involved.

ORGANIZATION LACKS "PEP"

It often happens that an executive at the head of an organization comes to a realization of the fact that his entire organization lacks pep. Many ways have been tried

for improving this situation, such as organizing social gatherings, providing inspirational speeches, and sponsoring picnics and various other forms of recreational activity. Arranging for pep talks and addresses by outside speakers, to be given to all the heads of the departments and minor executives, is one of the common devices used by executives to improve this situation. In practically all cases, such efforts give results of a temporary nature only and instances are practically unknown where any permanent benefits have resulted from the application of any of the methods mentioned.

A well-organized training program of a permanent and continuing nature, adapted and re-adapted to meet the needs of employees, has been found to be one of the most effective ways of developing and maintaining a desirable degree of so-called pep in any organization.

Attempts to mix social activities with working relationships seldom, if ever, produce any lasting results of value in a working group. In this connection, there is much to be said in favor of providing the best possible opportunities for employees to perform their work under good working conditions, so that they will be happy in it, and letting them figure out for themselves their own social contacts and their own forms of relaxation and recreation.

TYPE SITUATIONS NOT ALWAYS APPARENT TO A HEAD EXECUTIVE

Several type situations which an executive at the head of an organization may recognize without any help have already been discussed. It is now proposed to examine some type situations which indicate needs for improvement and which are likely to be identified most readily in connection

with conferences of heads of departments, foremen, and supervisors.

There is considerable evidence to support the statement that many unsatisfactory situations perfectly well known to foremen, supervisors, and other minor executives, whatever their titles may be, may prevail without knowledge of them ever filtering through to the person at the head of an organization. In other words, the minor executives of foreman rank—those in immediate charge of work groups—because of their close relationship to the actual work done, are in the most favorable position to become aware of many situations which involve important managerial problems. Some of them may appear to be quite unimportant in themselves, but in the aggregate they may have sufficient importance to constitute a drag on the whole organization and seriously hamper its operating efficiency. A large number of the fifty-four type situations listed on pages 31-33 fall within this category.

Failure of the head executive to recognize, without any help, many of these type situations is, apparently, no reflection upon him. It is a reflection, however, upon his ability if he does not do whatever is necessary to utilize, at its full value, the cooperative effort of members of his staff who are in a position to know more about the details of the organization than he himself can possibly know. It is a matter of common knowledge that, where an executive fails to do this, especially in the public service, the inescapable outcome is an investigation or a survey by some outside person or agency. In many cases such surveys, with recommendations for reorganization and personnel changes, are forced upon an organization when it has become inefficient, when the personnel relationships are bad, when the morale of the organization has been "shot to

50 IDENTIFICATION OF NEED AND PLANNING

pieces," or when other conditions or combinations of conditions have resulted in a situation that is intolerable. In many instances the trouble, expense, and inefficiency, which finally have to be corrected, could be obviated if the head executive made an intelligent effort to develop team work in his organization and made it possible for the available personnel to function at full capacity. Most normal persons would rather do a good job than a poor one. An efficient executive keeps this fact in mind and regards it as his job to bring about, as far as possible, situations where every individual in his organization has the best possible opportunity to utilize, on his job, all the brains and all the ability that he has.

A few of the type situations which are not always readily apparent to the head executive, but which can easily be identified by a group of minor executives, will now be discussed. A sample list of type situations, which are likely to be identified in conferences with groups of minor executives, might include such items as the following:

1. Excessive "buck passing."
2. Poor cooperation between departments.
3. Supervisors or foremen unable to interpret business data.
4. Many employees uninformed with respect to organization policies.
5. Uncertainty as to policies.
6. Importance of reports not appreciated by those who make them.
7. Responsibilities of individuals not clearly defined, and not well understood.
8. Wastage in the use of supplies.
9. Loss and abuse of tools and equipment.

These type situations, which are representative of a much larger number, are discussed in some detail, as follows:

EXCESSIVE "BUCK PASSING"

Passing the buck means shifting a responsibility to someone else. In working organizations where side-stepping responsibility, in general, and dodging or evading specific responsibilities are prominent characteristics of employees, the situation is obviously unfortunate. This condition indicates poor morale. The mental attitude which expresses itself in an employee's attempts to evade the responsibilities that are involved in his job may be due to a number of causes. One of the notable causes is lack of a clear understanding of just what his responsibilities are. It often happens that a person is brought into an organization and given miscellaneous jobs to do without having been given sufficient instruction in the proper methods of doing the work, and without having had made clear to him the responsibilities which he should assume. Under such conditions, the employee figures things out for himself. Therefore, it is but natural that, in order to protect himself, he should attempt to cover up his mistakes and shift to someone else the responsibility for things that happen which are not creditable to him.

Obviously, a training program which had as one of its principal objectives *defining for members of an organization their responsibilities* would be one good way of reducing the evasion and the dodging or shifting of responsibilities by members of a working organization.

Another cause of buck passing is that certain types of individuals always try to *straddle* their responsibilities—assuming just enough responsibility so that if everything

turns out favorably they will be able to claim credit for the results, and, at the same time, drawing someone else into the situation just far enough to shift the responsibility to his shoulders if things do not turn out so well. While no training program can re-make the established characteristics of such persons, it is possible, by a thorough-going analysis of the responsibilities that belong to each job, to make it increasingly difficult for a person with these propensities to "get away with it" with any degree of credit to himself. In other words, the buck passer is eventually discredited in any organization where everybody else clearly understands the scope and nature of their responsibilities.

POOR COOPERATION BETWEEN DEPARTMENTS

Cooperation between persons of equal rank involves a mental attitude which is practically impossible to classify as a *responsibility*. It is doubtful if the highest type of cooperation can ever be secured by attempts to *force* it. An individual may measure up to all the *definable* responsibilities of his job and yet, because of an unfavorable mental attitude, fail, in a real sense, to cooperate with his associates. This condition is of particular importance when it prevails among minor executives of equal rank in an organization. Each individual can meet all the specific requirements of his own particular job and yet fall down completely from the standpoint of cooperation with other minor executives of equal rank. Experience has shown that many examples of poor cooperation between individuals and departments will not be readily apparent to the executive at the head of the organization. The actual "low-down" on many such situations is, however, well known to the minor executives who are closer to where the actual work is done.

SITUATIONS NOT APPARENT TO HEAD EXECUTIVE 53

To the degree to which these persons can be handled in such a way as to develop, within themselves, mental attitudes which will make them *want* to cooperate, results of value may be expected.

Because of the somewhat elusive nature of the attitude of mind which induces cooperation, its development presents problems which require the greatest tact and good judgment, if constructive outcomes are to be realized. One of the most effective methods of attack on this problem that has thus far been developed is to set up a conference program for minor executives. Problems and situations which arise in connection with the regular work of the organization supply the subject matter for analysis, discussion, and the identification of responsibilities. When a group of minor executives can sit down together around a conference table for the exchange of ideas and a careful consideration of their individual and joint responsibilities, one of the best situations for encouraging real cooperation in the organization is presented.*

SUPERVISORS OR FOREMEN UNABLE TO INTERPRET BUSINESS DATA

During the past two or three decades there has developed in this country a marked tendency to make available to employees more and more information on the actual business status of the organization for which they work. Years ago, data of this type were regarded as business secrets to be made known only to members of the firm, or, in large organizations, only to directors and higher officials. As stated before, this condition has been changing for a long

* A more extended discussion of this question may be found in Cushman's *Foremanship and Supervision*, Second Edition.

54 IDENTIFICATION OF NEED AND PLANNING

time and now it is a commonplace for executives on the lower levels to be provided with statistical data which, in an earlier age, would have been regarded as secret, or at least as confidential.

In organizations which have a policy of acquainting employees with such important aspects of the business as production costs, index numbers, methods of distributing the product, overhead costs, and other data of a similar character, it often happens that the management believes it to be sound policy to make such information available to the working force through the first-line supervisors or foremen. If the latter are unable to interpret the data properly, a very definite need for some form of training becomes obvious. A unit of training to meet this need would call for the use of instructional methods rather than the application of the conference procedure. It should be pointed out, however, that a specific need for training, for which the case mentioned is intended to serve but as a sample, would be more likely to be recognized in a conference of minor executives than by the executive at the head of the organization, through his usual contacts.

EMPLOYEES UNINFORMED REGARDING ORGANIZATION POLICIES

To have any considerable percentage of the employees more or less ignorant of the prevailing policies of an organization tends to lower the morale of the entire working group. Such a situation, if allowed to continue over a long period of time, tends to kill interest, promote dissatisfaction, increase gossip, start all sorts of false rumors and, in general, to create a situation where almost anything can happen because of a more or less marked feeling of insecurity and uncertainty.

Members of a working organization who are not reliably informed with respect to organization policies are thereby stimulated to do a great deal of guessing and speculative thinking about them. They can only try to imagine what the policies are. In this there is an element of danger involved which is very real. There is always the tendency to generalize from too few cases; hence there is always the possibility of having groups of employees making their own deductions and assuming the existence of policies which are very different from those which actually prevail. To illustrate, it may be the policy of an organization to make promotions from within, whenever an opportunity develops and some individual can be found in the working group who is qualified for advancement. The management may have a real desire to follow through with this policy, but, on some special occasion an outsider is brought into the organization and advanced over the heads of persons who have been connected with the organization for years. From *one* such case, which under the circumstances might have been fully justified, and in the absence of any announcement of policy from higher up, the idea might be accepted by the entire working force that the policy of the management was to go outside the organization to fill all the higher positions. Notwithstanding that such a policy was never contemplated by the management, the fact that the employees believed that it was would tend to undermine the morale of the working group. They would justify themselves in saying, "What's the use? All the good jobs go to outsiders." Many other illustrations might be given to suggest some of the deleterious effects, upon morale, of the employees' ignorance of company or organization policies. However, two additional examples will probably be sufficient.

56 IDENTIFICATION OF NEED AND PLANNING

1. Employees notice that certain individuals are able successfully to by-pass or "short-circuit" their immediate superiors. In the absence of any announced policy regarding official channels to be recognized in handling matters of business, the idea spreads throughout the group that, sub rosa, it is the policy to encourage such irregularities and that the head executive looks with favor upon building up a "one-man" organization.
2. Certain employees consistently evade duties and spend a lot of time and effort in attempting to attract attention to themselves. They are clever at developing alibis and manage to "get away with it." They secure increases in their salaries. Theoretically, an unannounced policy of the organization is to recognize merit and the faithful performance of work. However, in view of the facts as observed by the working force in this case, there is very little probability that they will suspect that the policy mentioned was ever even considered by the management.

UNCERTAINTY AS TO POLICIES

Uncertainty as to policies is likely to develop when contacts between the head executive and members of his staff are not sufficiently close. This is especially true when organization policies are changed frequently and no adequate means is provided for conveying reliable information concerning changes or modifications to those who should have accurate and reliable information.

The degree to which uncertainty as to policies pervades an organization can be quite accurately ascertained in connection with a program of conferences with minor executives. Moreover, this is an excellent example of unsatisfac-

tory situations which the minor executives are more likely to have knowledge of than is the head executive.

When uncertainty as to policies is due to the fact that the head of the organization is, himself, uncertain as to what they should be, the situation is obviously highly unsatisfactory, and should be corrected at the earliest possible moment.

Uncertainty as to policies is sure to have a negative effect upon any working organization. It tends to make employees jittery and induces worry. To the extent to which it prevails, it is almost certain to discount the quality of work done and probably the quantity also. All and all, it is too expensive to be tolerated.

Where policies are definitely fixed and the need is principally to make information about them available to the members of the organization who are concerned, there are, of course, several possible ways of accomplishing the desired end. One way is to circulate the information in mimeographed form; another is to print it in the company or organization paper. Still another possibility is to call the entire staff together for an informational meeting, in which the head executive or his representative could explain the policy or policies. A conference of heads of departments and minor executives would serve a useful purpose in this connection only when the participants were expected to give some real consideration either to questions of policy per se or to a discussion of the possible plans for spreading or giving out information concerning them to the working force. If the policies had been determined upon, and the heads of departments and minor executives were merely to be told what they were, nothing more than an informational meeting would be called for.

58 IDENTIFICATION OF NEED AND PLANNING

IMPORTANCE OF REPORTS NOT APPRECIATED

It often happens that the whole subject of reports is one on which members of a working organization will have a wide variety of opinions. Some of these opinions may not be openly expressed; but, behind a more or less hostile or at least unsympathetic attitude, there may be a feeling of resentment on the part of individuals, because of what is regarded by them as a lot of useless and unnecessary paper work which they are required to do. Minor executives are much more likely than higher executives to know, at any given time, just what the attitude toward reports is on the part of those who are required to make them. This whole question of reports is one which is worthy of consideration in connection with any program of in-service training. If the attitude referred to actually prevails, it is the part of good judgment to do something about it. If something is to be done with the expectation of bringing about improvement, obviously the first thing necessary is to identify, as far as possible, the reasons which encourage the development of such attitudes.

One of the best ways of dealing with this situation that has been found up to the present time is to work it out on a conference basis. Every person who is required to make written reports of any kind, may, in this way, be given an opportunity to express his views and opinions concerning them and to cooperate in making an analysis of the purposes to be served by specific reports. Why the reports are necessary, why they should be submitted at definite intervals, the ways in which the data are filed or used, and many other questions of a similar character may be considered. If, under the prevailing system, reports are being required which serve no useful purpose, that fact will be brought out in connection with the discussion. As

a result of all this, a basis for constructive suggestions will be developed in case there is something wrong with the reporting system. In the event that the system is really all right and the discussion shows that no unnecessary or useless reports are being required, the conference group may be expected to recognize the situation and, as a result of a better understanding of the whole question of reports, to evince an improved attitude relative to their reporting responsibilities.

RESPONSIBILITIES NOT CLEARLY DEFINED AND NOT WELL UNDERSTOOD

This type situation, which is far too prevalent, has already been touched upon in connection with the discussion on "passing the buck."

All jobs in every type of organization, public or private, carry with them specific duties and responsibilities. Obviously, one of the first necessary steps in any training activity is to identify the responsibilities that are involved in each job to which a person is assigned, and then see to it that the person on that job clearly understands just what his duties and responsibilities are. It is now quite generally recognized that the responsibility for checking up on this matter and also for knowing that the person assigned to a job has been sufficiently trained to be able to perform his duties and meet his obligations belongs to the line supervisor to whom the individual concerned is directly accountable.

WASTAGE IN THE USE OF SUPPLIES

This state of affairs is representative of a number of others such as: "loss and abuse of tools and equipment," "excessive spoilage of material," and "too large a per-

centage of substandard work." These type situations connected with details of operation are for the most part much better known to minor executives than to higher officials. Unsatisfactory situations of this type are probably best dealt with by utilizing the conference procedure. By this means the essential facts can be identified and suggested ways of improving the situation can be worked out. Then, if this effort is supplemented by more effective supervision by line executives, it is quite likely that definite improvement will result. Many practical suggestions for carrying out such a program are to be found in other sections of this book. Also, practical methods applicable to work of this nature may be found in the book, *Foremanship and Supervision*, to which reference has already been made.

SUMMARY AND CONCLUSION

In conclusion, it may fairly be stated that the degree to which specific needs may be identified and constructive measures for securing improvement instituted depends very largely upon the attitude, breadth of vision, and all-round competency of the executive at the head of an organization. If he happens to be a "little" man, with petty ideas, who has a peculiar complex which tends toward the building up of a "one-man" organization, but little of value can be accomplished. Under such conditions, the organization may have to continue to operate as best it can, just as a gasoline engine with a cracked spark plug operates after a fashion.

Any critical examination of the facts relative to the operation of any organization which takes into consideration such specific items as have been discussed in this chapter will lead inevitably to the conclusion that there are

many situations which breed inefficiency in an organization, and that they cannot be improved until and unless the individual at the top—whatever his title—has the attitude and the characteristics which make it possible for constructive work to be done.

As organizations grow, it becomes more and more necessary for a head executive to delegate administrative and managerial responsibilities to members of his staff. However, the degree to which he can do this and still maintain an organization which will cohere—hang together—depends upon the competency and reliability of the entire personnel. These attributes, characteristics, and abilities can be developed and strengthened by a well-planned and efficiently operated training program. All efforts to bring about improvement in the performance of work, or the discharge of responsibilities in an organization, however, are quite certain to be more or less futile, unless the situation at the top is reasonably favorable.

ABSTRACT

Before the organization stage is reached in setting up a program of training for employed personnel, some of the more important situations which are deemed to be susceptible of improvement should have been identified.

This chapter presents a constructive discussion of the jobs involved in (1) determining general and specific training objectives, (2) making and utilizing analyses of different types, (3) outlining units of instruction, (4) selecting and training instructors, and (5) choosing appropriate types of organization to be utilized with due regard to the nature and scope of the objective and the working conditions. Also, some of the principal advantages and disadvantages of local programs, extension classes, zone or regional schools, short courses or institutes, and correspondence courses are identified and discussed.

CHAPTER III

The Organization of Training

THE ORGANIZATION stage is that phase of the development of a training program in which at least five important steps are accomplished. These steps are:

1. The definition of general and specific training objectives.
2. The making of such analyses as may be needed in order to identify the specific content of training courses.
3. The outlining of units of instruction based upon the analyses which have been made.
4. The selection and training of instructors.
5. The selection of appropriate types of organization for operating the program with regard to (1) the specific objectives to be attempted and (2) the working conditions and other limiting factors.

These five principal steps are now discussed, in some detail, in the following paragraphs.

THE DEFINITION OF GENERAL AND SPECIFIC TRAINING OBJECTIVES

The importance of identifying existing unsatisfactory situations has been discussed in considerable detail in the preceding chapter. The effort necessary to discover "what's

wrong" or to find reasonably specific answers to such questions as "What is it that the training program is supposed to accomplish?" or "What is it that needs to be done?" is necessarily the first preliminary step to be taken before going into the details of organizing any training program. Phrased in the simplest possible language, it amounts to finding out *what* it is that needs to be done in advance of trying to find out *how* to do it. Notwithstanding the fact that this method of approach is sensible, logical, and really scientific, it is little short of astonishing to note the degree to which training programs are sometimes started by doing something—almost anything—to give the appearance of purposeful training activity, in advance of clearly determining just *what* it is that the program is supposed to accomplish. A careful consideration of existing situations which are not satisfactory, such as is suggested in the preceding chapter, is therefore a necessary preliminary to the setting up of general training objectives for any working organization. An example of general and specific objectives is now given.

As a result of the recognition of Type Situation 1, discussed on page 43 of Chapter II, "Too Many Accidents," the general and specific training objectives might be stated as follows:

GENERAL OR MAJOR OBJECTIVE

"To bring about a reduction in the number of accidents to employees." Obviously this objective cannot be attained by issuing orders or by making speeches about it. If its attainment is to be secured in part by educational methods, a series of subsidiary objectives will have to be set up. The list might be as given below.

SPECIFIC OR SUBSIDIARY OBJECTIVES

1. To have all persons with a supervisory responsibility cooperate in identifying the *causes* of all recent accidents to employees.
2. To define the responsibility of the supervisors clearly in each case.
3. To develop ways in which supervisors can more effectively meet their responsibilities as defined.
4. To emphasize the value of giving adequate attention to the training of employees in safe working practices.
5. To make all supervisors aware of the importance of correct habit formation during the learning and breaking-in period.
6. To obtain an appreciation of the latest techniques and methods of accident prevention as developed, for example, by the National Safety Council.
7. To develop a program of safety applicable to the particular conditions in the organization, with a view to securing continuity of attention to the accident problem, and as far as possible, to avoid a slump finally resulting in little more than a perfunctory routine to be followed.

It is altogether probable that other specific objectives might be worked out in an organization where the number of accidents to employees was excessive. Each of the seven possible specific objectives named indicates the probable utility of definite training procedures.

HOW THE OBJECTIVES MAY BE ATTAINED

Specific objectives 1, 2, 3, and 4, would be likely to be effectively accomplished through supervisors' conferences under competent leadership. Number 5 is really an extension of 4, and would probably call for some good teaching

to supplement the conference discussion. Number 6, in many cases, would call for the use of instructional methods by a person who knew his subject well enough to teach it. The last specific objective, 7, would probably be best attained by utilizing the conference procedure once more. Under this objective the supervisors and possibly the higher executives would pool all their ideas which had previously been developed. The final outcome—a practical program to be recommended—would reflect all the best ideas which could be developed by the entire group after having “used their heads” to the limit of their collective capacity in thinking the problem through.

This discussion is intended in part to bring out the fact that the definition of a series of specific objectives usually suggests the educational method or procedure which will be likely to give the best results in each case. As has already been pointed out, conference discussion, the informational procedure, and specific teaching would all have a place, and each would contribute in ways in which the others would be ineffective.

THE MAKING OF SUCH ANALYSES AS MAY BE NEEDED

WHAT AN ANALYSIS IS

An analysis is what results from breaking a thing up into its component parts. The process of analyzing makes it possible to examine things that not only appear to be complex but also are, in fact, highly complex. Without pulling a thing apart at least sufficiently to find out what is in it, it is often impossible to deal with the thing in an intelligent manner. This fact is so obvious in the fields of engineering, chemistry, and other practical activities that

it is curious that the application of analytical methods in the field of education and training has been so long delayed.

The application of analytical methods to problems of vocational training calls for special skill and a high degree of ability to discriminate between essentials and non-essentials. The variety of analyses that have been developed is very great, and the limits of possible useful types have not yet been reached.

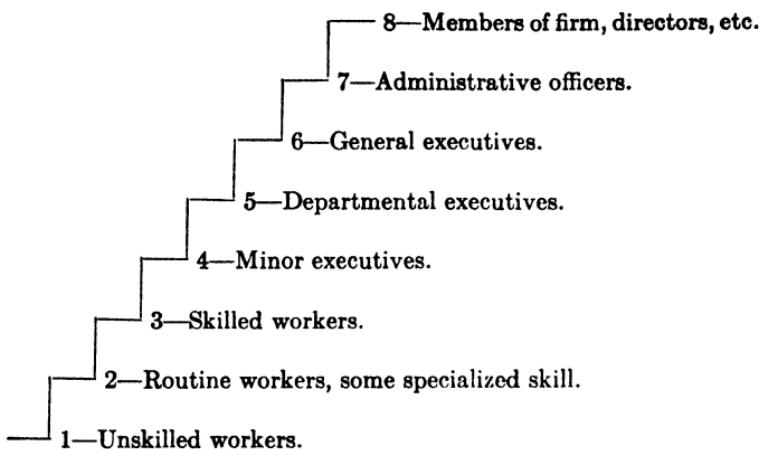
In working out analyses for training purposes, it is not sufficient merely to break a thing up into its component parts. It is necessary, also, to apply some system of classification, so that the parts will be arranged in an orderly manner. To make an analysis of a training problem without following a system of classification would correspond to taking a machine apart and throwing all the parts together in one pile. Whenever the need for an analysis is indicated in connection with working out plans for training, the best possible attempt should be made to develop a properly classified analysis.

**TYPES OF ANALYSES THAT HAVE BEEN FOUND USEFUL IN
CONNECTION WITH THE DEVELOPMENT OF TRAINING
PROGRAMS**

In discussing the types of analyses that have been found of value in connection with the planning, organization, and operation of training programs, it seems logical to classify them with respect to the *employment levels* for which they are intended to be used.

EMPLOYMENT LEVELS

For practical purposes, seven or more employment levels may be considered for the average working organization, as indicated in the following layout:



This layout is intended to be suggestive only. The number and designation of "levels" are, of course, subject to unlimited variation in order to fit the needs of particular situations. In most cases, however, the practical equivalent of the first seven employment levels may be recognized in all organizations. The purpose of suggesting this classification of jobs is to provide a basis for the intelligent application of various types of analyses in connection with the organization of training programs for employed workers. The applicability of different types of analyses to the work involved in organizing training programs for employees on the several employment levels as indicated is now discussed in some detail.

UNSKILLED WORKERS

The question is often raised as to whether there is any real justification for using the term "unskilled." Through common usage, however, the term has come to distinguish between persons whose chief asset is brawn and those who are able to do varieties of work which call for some degree

of ability to apply specific knowledge to their tasks. However this may be, jobs which require absolutely *no* skill are few and far between. Hence the designation "unskilled" actually refers to jobs where the amount of skill required is very small and easily acquired. The training of unskilled workers therefore generally amounts to having a labor foreman or other designated person made responsible for directing their work on the job. Any special instruction which may be needed, such as where to carry material, how to pile it, when to lift, when to help push, etc., is given on the job and at the time when it is needed. In any situation where the training of so-called unskilled workers appears to call for the working out of analyses, the forms suggested for routine workers will probably be found satisfactory.

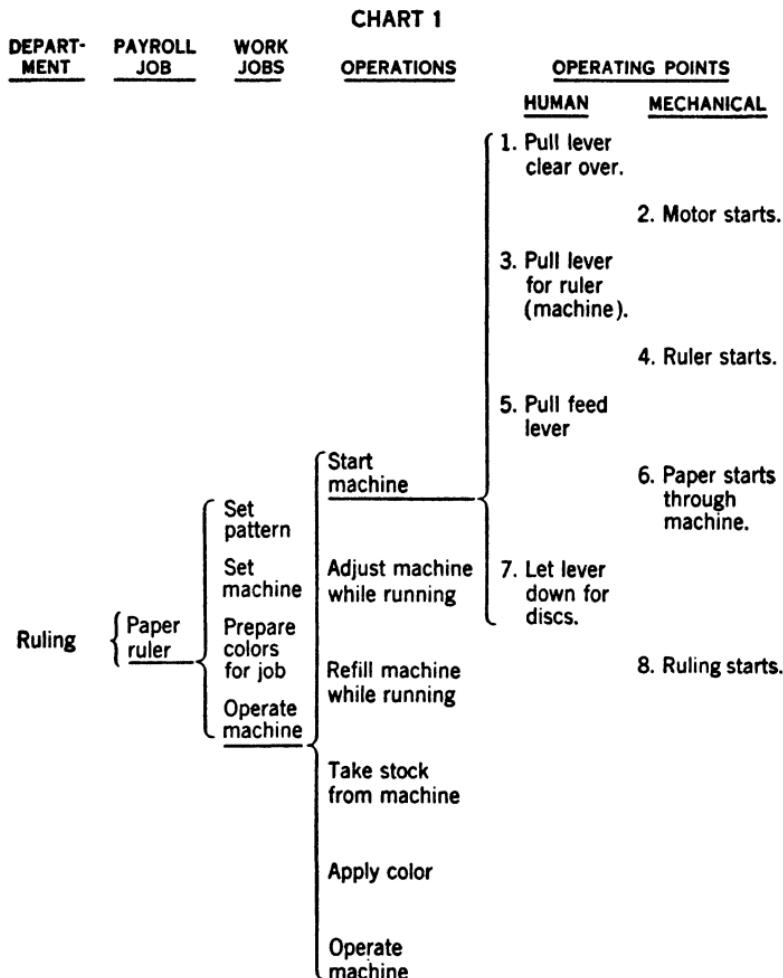
ROUTINE WORKERS

The organization of training for routine workers presents few serious difficulties. In this connection, a number of different forms of analysis are used. All these forms, however, are similar in purpose. The purpose in each case is to identify specific training content. This content is usually classified as (1) manipulative and (2) technical.

Regardless of terminology and the method of arranging data, a job analysis is a breakdown of pay roll jobs into *work jobs*, *operations*, and (sometimes) *operating points*. For certain classes of jobs, a detailed list of operating points is worth developing. For other classes of jobs, it is often more useful to analyze operations into two classes of items: (1) what the worker *does* and (2) what he *must know*.

Samples of analyses of routine, operative jobs. For the purposes of illustration, two samples of job analyses are discussed, as follows:

Chart 1 is a sample of a partial analysis of a pay-roll job in a paper mill. It is a breakdown of a pay-roll job into



work jobs, operations, and operating points. The operating points are classified as *human* and *mechanical*.

Human operating points are the points in the operation

where something which requires human intelligence is done by the operator. Mechanical operating points indicate the things that the machine or device does of itself as a result of what the man has done. This form of job analysis is particularly suitable for identifying manipulative training content for routine or operative jobs.

Identification of teaching points. A list of *teaching points* constituting an instructor's memorandum or outline is derived from the list of operating points about as follows:

*Teaching points to cover in starting machine
(Chart 1, paper ruler)*

1. How to pull starting lever for motor clear over.
2. See that learner notices what happens as a result of this.
3. How to pull lever for starting ruling machine.
4. Check to see that learner understands what happens at this point.
5. How to pull feed lever to start paper through the machine.
6. Check to be sure that learner observes what happens when the feed lever is pulled.
7. By properly moving the lever controlling the position of discs, bring discs into contact with paper going through the machine.
8. Check learner to see that he observes and comprehends the adjustment of the discs.

NOTE: Good instructional technique would call for the learner to carry through each phase of this operation, under the supervision of the instructor, to demonstrate that he could perform the work correctly. The instructor also should satisfy himself that the learner comprehends what he is doing. By asking a few questions of the learner it is not difficult to determine this.

Chart 2 is a sample of an analysis of a paper-mill job where it is important not only to identify the steps in the job, but also to identify specifically what the individual would need to know in order to be competent on the job. This sample is taken from an analysis of paper-mill jobs published as Vocational Education Bulletin 168, "Vocational Training for the Pulp and Paper Industry."

CHART 2

What Man Should Be Able to Do	What He Must Know
<p>(Operation) Blowing digester</p> <ol style="list-style-type: none"> 1. See that pit is closed. 2. Put in water. 3. Close drain valve on blow line. 4. Open blow-off valve. 5. Close all vent-line valves. 6. Shut off steam valve. 7. Take bolts off cover. 8. Disconnect vent lines. 9. Remove cover. 10. If it hangs up—pack and valve, wash down, recover, raise pressure, and reblow. 	<p>That pit is closed. Amount of water needed. When cook is done.</p> <p>Location of vent-line valves. When to close them. Proper time for shutting off steam. When pressure is off digester. How to read gage on meter.</p> <p>That chain blocks are securely attached. When it needs reblowing.</p>

The purpose of this point is not so much to discuss the characteristics of good teaching as it is to bring out the fact that a good job analysis, worked out in some manner equivalent to the samples here presented, clearly indicates the *teaching points* to be recognized and covered by an instructor or supervisor who is responsible for training routine workers on the job.

SKILLED WORKERS

Analyses of many varieties have been used in connection with the development of training programs for skilled occupations. However, before discussing some of the principal forms of analyses which have been found to be of service in this field, it may be worth while to give some consideration to the distinctions which may be made between routine or operative jobs and the so-called skilled occupations.

In the first place, the fact should be recognized that it is not a simple task to classify a great many occupations and to place them definitely in one category or the other. Obviously, it is necessary to have some practical basis for such a classification. In the opinion of the author, at least one fundamental basis of differentiation is found in connection with the process of making analyses of different occupations.

Distinction between routine jobs and skilled occupations. Wherever an occupation can be broken down as indicated in Chart 1, page 70, so as to give a definite list of *operating points* and the several work jobs are satisfactorily performed when a definite cycle is followed by the employee—over and over again—the pay-roll job so analyzed has the characteristics of a routine, repetitive job. In other words, a pay-roll job which can be analyzed in this way requires conformity to a pre-determined routine, with a minimum demand upon the worker for any planning of his work. On such a job the employee is not ordinarily called upon to devise ways of accomplishing a desired result. He is expected to follow directions and conform to standard practice. Notwithstanding this fact, it often happens that persons employed on routine jobs do devise improvements in the procedure as laid out. Sometimes these improvements or changes enable the

worker to produce more work with less effort and also to increase his earnings. When an employee does this and shortly finds that his rate of pay is to be cut so as to prevent him from enjoying the benefits of his attempts to improve operations, unfortunate results are practically assured. Such occurrences create problems of management which must be solved equitably and fairly in order to avoid results ruinous to morale.

Where the work involved in the practice of an occupation is of such a nature that the worker is expected to *plan* the operations necessary to accomplish a definite result, the occupation has one important characteristic of a skilled trade. Such an occupation cannot profitably be broken down into "operating points." The employee, in order to do specific jobs, usually has to make an *unlimited number of combinations of fundamental operations*. In doing this he has to plan, on the job, and figure out ways and means of accomplishing desired ends. Very often he is given only a drawing, sketch, or description of the finished job or article wanted.

General requirements for an analysis of a skilled occupation. An analysis of a skilled occupation, in order to be of value for training purposes, is usually set up in terms of type job specifications and/or type jobs rather than specific jobs or operations. Also, most skilled occupations require a command of sufficient technical knowledge and special information to make it desirable to classify the technical content under appropriate headings, such as mathematics, science, drawing, auxiliary information, and sometimes related art. Two samples illustrative of classified content analyses for skilled occupations follow.

Samples of analysis forms for skilled trades. The following samples are included at this point to show ways of setting

CHART 3
MACHINIST'S TRADE (SAMPLE)

Checking Level	Type Job Specifications	Auxiliary Information	Mathematics	Drawing	Science
6	Planing several surfaces involving more than one set-up and including work on surfaces at any angle. Job clamped in vise or strapped to table.	Additional operating tools and names of special tools.	Complementary angles, knowledge of; necessary for use of swivel head and swivel base vise; use of bevel protractor.	Taking off dimensions of angles. Taking off dimensions from assembly drawings.	Principle of lever. Use of lever for clamping work with bolts and straps.
BRICKLAYER'S TRADE (SAMPLE)					
Type Job Specifications	Drawing	Trade Technical Knowledge	Auxiliary Information		
9. Type-job specifications— Building over a right-angled opening using an iron lintel.	Ability to check up the setting of frame by others and reading dimension sketch attached to tag of frame (if any).	The same amount of iron in the shape of an angle iron, channel iron, or iron panel will spring less than when in the shape of a flat piece.	Ability to use linear measurement to accuracy of one-eighth inch.	Recognition of Stock; Trade Terms	Care of Tools; Safety
Type jobs: a. Laying up an 8-inch division wall with door or window opening not over 4 feet in width.			Trade terms: angle iron; channel iron; soffit.	Safety: Use support if necessary to hold bricks in lintel until top course is laid over arch.	

up good analysis patterns for skilled occupations. The essential feature in the forms illustrated is the plan for classifying the technical content associated with type jobs or classes of work.

The foregoing samples are taken from some of the older analyses published by the Federal Board for Vocational Education.* In both these trade analyses, the related technical content has been definitely indicated for each level of work expressed by the type-job specifications.

Type jobs and type-job specifications. Type-job specifications for a skilled occupation offer a practical and useful basis for checking the orderly progression of apprentices. Where the informational and technical content is indicated for each "level" of accomplishment, as expressed by the type-job specifications or the type jobs, the result constitutes a trade or occupational analysis. Such an analysis is of basic value in setting up and operating training programs for skilled occupations. It is also of value in organizing extension training for employees who, during their early training period, did not have an opportunity to learn all phases of their occupation.

Routine workers often develop remarkable skill. At this point it is desired to make clear that the distinction which has been made in the preceding paragraphs as between routine operative jobs and skilled occupations apparently ignores the fact that workers on routine jobs often develop a remarkable degree of skill. Good examples of this are found in innumerable factory jobs. The inspection of sheets of paper by girls in a paper mill or the stamping of a name or trade mark on stacks of unglazed plates in a pottery are cited as illustrations of this. In spite of this apparently

* Bulletin 52, "Theory and Practice (Machinist's Trade)"; Bulletin 95, "Bricklaying."

contradictory situation, persons such as those mentioned work on routine operative jobs which can be analyzed into simple operations and specific operating points. Because of this they cannot profitably be dealt with analytically on the same basis as has been found to be desirable for occupations which require a relatively long period of learning—apprenticeship or its equivalent—and which, for want of a better term, are commonly referred to as skilled occupations.

Other examples of analyses. A few additional samples which show variations and adaptations of the principal types of analyses thus far discussed are now given. The following sample is a portion of an analysis of the cook's job *—one who is responsible for the large-scale preparation and cooking of food.

Here the job and the operations are clearly designated. The manipulative content is indicated in sufficient detail under "operations" to enable a trained instructor of cooks to identify the "teaching points" to be covered in that phase of the training. However, a distinction has been made in the last two columns between *information* and *technical knowledge*. Information merely has to be *imparted* or made available in some way. Technical knowledge, if it is to be of much service to the learner, must be understood or comprehended. This fact justifies the time and effort necessary to utilize efficient methods of teaching in putting it over.

A second sample from the analysis of the Baker's Job is taken from the same publication. Here the variation in the classification headings appears to be justified because of the somewhat different nature of the two jobs and the relative importance of the "teaching points" to be recognized by the instructor in each case.

* "The Baker's Job and the Cook's Job," Bulletin of the Bureau of Prisons, U. S. Department of Justice, 1938.

CHART 4

SAMPLE FROM AN ANALYSIS OF THE INSTITUTIONAL COOK'S JOB

SOUPS AND GRAVIES

Job	Operations or Steps in Job	Auxiliary Information Needed	Technical Knowledge Required
1 Make up batch of white stock	1 Secure all available green bones, meat scraps, bones from roasts, ham bones, etc 2 Place material in stock pot and wash in cold water, adding baking soda to wash water 3 Cover with cold water 4 Add salt 5 Add vegetable bouquet consisting of onions, celery tops, parsley, carrots, etc 6 Simmer 12 to 24 hours 7 Strain stock 8 If fat is not desired, chill stock and skim	1 Stock pot should be cleaned and started fresh each day 2 Too many ham bones will give wrong flavor 3 All long bones should be cracked 4 If stock is to be held, it must be cooled down quickly before placing in refrigerator	1 The best properties for stock are: 3 parts bone, 1 part meat 2 Reason for using baking soda in washing material 3 Reasons for slow cooking 4 Long period of cooking breaks down connective tissue and forms gelatin, also dissolves valuable mineral salts from bones and marrow 5 Importance of protection from contamination
2 Make up batch of brown stock	Same as for white stock except that bones and meat are roasted and browned, which would be another operation, 2-a	Same as above	Same as above
3 Make up batch of ham stock	Same as for white stock except that smoked ham bones and bacon and ham rinds only are used	Same as above	Same as above

CHART 5
SAMPLE FROM THE ANALYSIS OF THE BAKER'S JOB
YEAST-RAISED BREADS

Operations	Data Needed	How Secured	Technical Knowledge and Information Needed
1 Determine most suitable size of batch that can be handled with available equipment	1 Capacity of oven 2 Capacity of mixer 3 Capacity of working force 4 Number of loaves needed 5 Size of loaf	Inspection and measurement Mark on machine or trial and error Try out Experience Inspection or measurement of pan	Average 9 slices per man a day
2 Weigh out ingredients	1 Size of batch 2 Specific formula for bread 3 Limitation as to cost 4 Absorption power of flour	Already determined From Steward From Steward Test of flour	Relationship between essential ingredients Enriching ingredients such as milk, arkaday, diamalt Proper consistency of dough
3 Mix batch	1 Speed of mixer high or 'low 2 Temperature of all ingredients 3 Machine tolerance 4 Final temperature of mixed batch	From Steward if not able to determine by observation Experimentation Dough thermometer	1 Approximately 10 minutes for high-speed mixers, and 20 minutes for low-speed 2 Order and method of adding and mixing ingredients 3 How to correct temperature of water to make batch come out at 70° or 80° F
4 Dump batch into dough trough and set aside for fermentation	No additional		When dough is ready for first and second punch Average 1 hour, 45 minutes for first punch and about 30 minutes for second

The third example of an analysis for training purposes refers to an entirely different class of employment—the job of a prison officer. While this job has some of the characteristics of a routine job, it is essentially different because of the degree of responsibility involved. However, the analysis of the job works out satisfactorily, for the particular class of work represented in the sample, by following a form previously discussed.

Utilization of analyses of skilled occupations. When an analysis of a skilled occupation has been developed in fairly complete form, it can be used for three principal purposes:

1. The type-job specifications and the type jobs may be used as a guide when assigning work to employees who are not fully trained. Such individuals should be given work to do which is within the range of their ability.
2. The analysis of technical content may serve as a reminder to the supervisor or whoever has the responsibility for training employees, as it indicates the auxiliary information and the directly related technical instruction which is essential for a given class or level of work. This is most effectively put over at the time when the employee is ready to apply it on the job.
3. The analysis clearly shows the *kind* of specific technical knowledge required in the particular field of work to which the analysis relates. The data on the analysis charts may therefore be utilized as a basis for formulating "organization courses" in related subjects for the occupation in question.

For an example of an organization course in related mathematics for a specific trade, the reader is referred to *Mathematics and the Machinist's Job*, by Frank Cushman, published by John Wiley & Sons, New York. This book was

CHART 6

CELL BLOCK POST

What He Does	What He Must Know
1. Makes count with officer whom he believes and gives receipt for the keys.	1. Approved methods of making count. 2. Use of each key and how to safeguard keys.
2. Asks officer whom he believes for any special instructions or information which he should have.	
3. Checks locking devices to see that everything is O. K.	1. Characteristics of special locking devices used in the institution, and special precautions to be taken with single and multiple operation of locks. How locks can be rendered inoperative. Special methods of checking.
4. Secures current information from call sheets, transfer sheets and other memoranda necessary to control movements of inmates.	1. Procedure to be followed in releasing men on call. 2. Types of passes and when to issue them.
5. At proper signal releases inmates from quarters, forms them in line.	1. System of signals to use. 2. How to carry out rotation schedule. 3. In cases where the cell block officer goes to the dining hall with his men, he should understand his duties and responsibilities while in the dining hall.
<p><i>Note:</i> In some institutions the cell block officer will accompany men to dining hall. In other institutions another officer does this.</p>	

developed by summarizing or "integrating" the columns headed "trade mathematics" for all the analysis charts covering the machinist's trade, as published in Bulletin 52 of the Federal Board for Vocational Education, which has been mentioned previously. The book therefore covers the subject of mathematics as used by *machinists*. Having been developed entirely from a comprehensive analysis of the machinist's trade, it cannot be expected to meet the needs of printers, carpenters, bakers, or brickmasons.

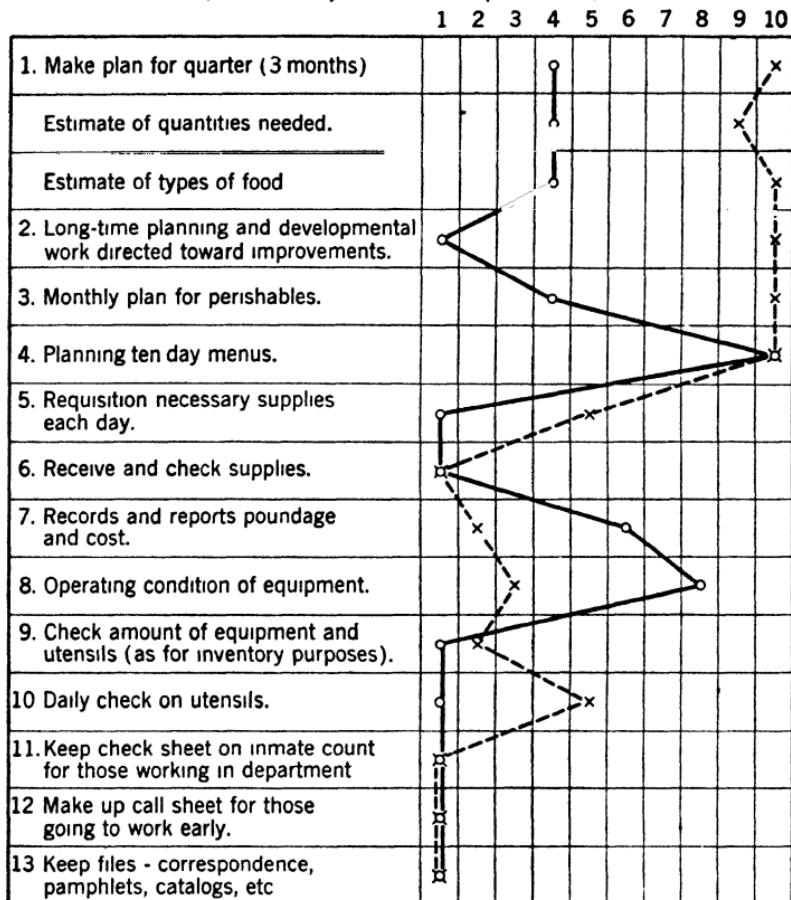
MINOR EXECUTIVES

In industry and business, as well as in the public service, there are a great many jobs which are not production or "doing" jobs. Such jobs often require a minimum of manipulative skill with tools, machines, or other equipment. In most cases, however, they involve very definite responsibilities. Various levels of supervisory jobs and the jobs of many staff executives come within this classification. Many different types of analyses have been found to be of value in connection with the development of training programs for supervisors and minor executives, and a great deal of information concerning forms suitable for the analysis of various phases of the supervisory job is to be found in the second edition of *Foremanship and Supervision*.*

Responsibility analysis. Perhaps one of the most helpful types of analysis for use in connection with training programs for minor executives and others who have supervisory responsibilities is illustrated by the sample shown in Chart 7. The items listed represent some of the more easily identified duties and responsibilities of a steward in a large penal or

* Cushman's *Foremanship and Supervision*, Second Edition, 1938, John Wiley & Sons, New York.

CHART 7
THE STEWARD'S JOB
(Partial Inventory of Duties and Responsibilities*)



—x—x is the delegation curve.

A rating of (1) signifies almost complete delegation.

A rating of (10) signifies no delegation.

○—○ is the trouble or worry curve.

A rating of (1) signifies no particular trouble.

A rating of (10) signifies considerable trouble.

correctional institution. This preliminary inventory is but a small part of a much more comprehensive list which could have been developed. For the purposes for which it was used, however, the analysis was sufficiently complete.

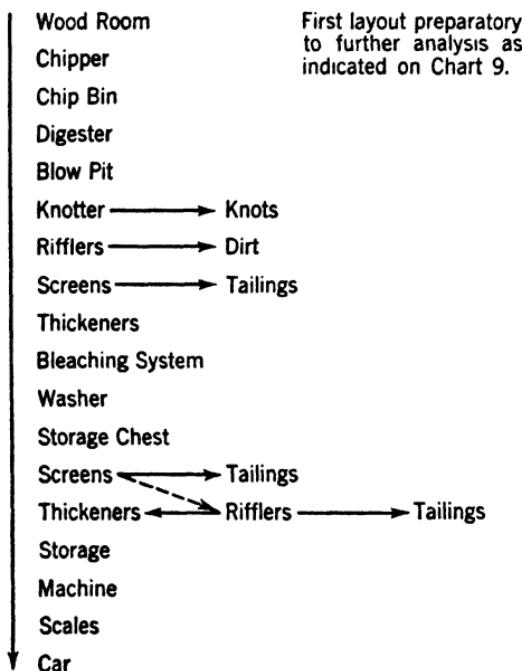
It may be noted that the duties and responsibilities have been "rated" by the steward (1) with respect to the degree to which the responsibility is delegated and (2) with respect to the degree of trouble or worry involved. The "high" points on the delegation curve identify specific *duties* to which the steward gives personal attention. The "high" points on the worry curve indicate particular phases of the job on which improvements of some kind should, if possible, be realized.

Analysis of production difficulties. The two charts that follow illustrate a type of analysis not thus far mentioned in this discussion. They show two stages in the consideration of certain production difficulties in a pulp and paper mill. The group concerned consisted of "key men" in charge of the several operations. As often happens in conferences with such groups, the first chart is incomplete, although it does clearly portray the first stage in the consideration of the question: "At what points may something which will impair quality happen to the material as it passes through the several processes in the plant, and at what points may the effects be partially or wholly corrected?"

The second chart evidences a more thorough consideration of the problem, and indicates the effects upon the final product.

In connection with the training program to which these charts refer, the objective at this point was to emphasize the importance of the supervisory responsibilities of the men concerned and to develop ideas as to how these responsibilities could more adequately be discharged, on the job.

CHART 8
ROUTE OF SPRUCE AND HEMLOCK THROUGH THE PLANT



NOTE: This copy of the layout contains the exact data as worked out, but is put up in a different form for convenience in printing.

DEPARTMENTAL AND HIGHER EXECUTIVES

The types of analyses thus far discussed either cover or suggest most of the forms which have been found to be of value in connection with the organization and operation of in-service training programs. The forms referred to in connection with the training of minor executives have been found to work equally well with department heads and others higher up in the organization. This is probably due

CHART 9

Production Difficulties	Wood Room	Chipper	Chipper Screen	Chip Bin	Digester	Blow Pit	Knotter	Riffler	Screens	Thickeners	Bleaching System	Washer	Storage Chest	Screens	Riffler	Storage	Machine	Scales	Car	Effect	
Burned Wood	+								-						-					Causes black spots in pulp - second quality.	
Dirt	+		+	+	+						+					-					Specks in pulp - second quality, if too much.
Cinders	+																				Spots in pulp.
Bark Inner Bark	+																				Low - grade pulp.
Slivers	+								-	-	-	-	-			-	-				Shives in pulp, low - grade.
Knots	+																				Low - grade pulp if not eliminated.
Color															+						Off - color pulp - low - grade.

NOTE: A plus sign (+) indicates a point of beginning and a minus sign (-) indicates a possible point for partial elimination.

to the fact that a minor executive or foreman has the same *kind* of responsibilities as the higher executive. Such differences as exist are those of *degree*, not of *kind*.

THE OUTLINING OF UNITS OF INSTRUCTION

The outlining of units of instruction from a reasonably satisfactory occupational analysis involves no outstanding difficulties. It is, however, important that such units be laid out with respect to two important principles, as follows:

1. Each unit should be sufficiently *limited in scope* to enable the average learner to grasp the new ideas involved, and

2. The units should be arranged in a progressive *order or sequence* based upon the learning difficulties which have been identified.

With respect to the first principle, it may be assumed that the average lesson should include not more than five or six *new* ideas. Eight new ideas, or eight *teaching points*, are generally regarded as the maximum number for satisfactory results. A lesser number is usually to be preferred.

With regard to the second principle, it should be realized that it is important for the instructor to *identify* the *learning difficulties* involved in each phase of his training program in order that he may present successive units of instruction in the best order of progression for the *learner*.

Where an analysis has been carried through to the degree of detail where "operating points" have been identified, the "teaching points" will already have been indicated in the analysis. In constructing an instructional outline from such an analysis it is therefore necessary only to arrange the available data in a manner suitable for use by the instructor. Where an analysis is set up in terms of type-job specifications, it may be necessary to analyze specific jobs further to make sure that all the teaching points will be covered in the instruction.

Detailed explanations of the job of working out an analysis of the teaching unit and the identification of learning difficulties are so clearly presented in available books on the subject that it is not believed to be necessary to include discussion of it in this book. One of the most complete presentations of this and other subjects related to vocational teaching that has ever been made available may be found in *The Instructor, the Man and the Job*,* by the late Dr. Charles R. Allen.

EXAMPLES OF INSTRUCTIONAL OUTLINES

The two examples which follow are taken from the "Manual for Instructors of Training Classes for Firemen," published by the Massachusetts State Department of Education, Division of Vocational Education, 1937. It may be noted that all the operations involved in specific units of instruction are listed in the order in which they are performed and, in addition, the teaching points for each operation are clearly indicated. This type of outline is a usable and satisfactory memorandum for the instructor. The second principle, previously mentioned, is taken care of by presenting the units of instruction in an effective order.

UNIT I—EVOLUTION 6a

OPENING HYDRANT

Operations	Teaching Points
1. Remove two or more hydrant caps.	Which caps to remove. Danger of fouling chain while spinning cap. Easy accessibility.
2. Place wrench on spindle at top of hydrant.	How tight to screw up. Reason for extra gate or gates.
3. Screw gates onto open outlets.	Why gates must be closed. Lack of gate on pump suction.
4. Close any gate which is open.	Direction of thread on this type of hydrant. Need of opening to fullest extent.
5. Turn top spindle with wrench.	Precaution against standing in front of outlet. Danger of injuring spindle or thread.

UNIT I—EVOLUTION 6b

SHUTTING DOWN HYDRANT

Operations	Teaching Points
1. Close gates to discharge lines.	When and by whom order to close is given.
2. Turn top spindle with wrench to closed position.	Direction to turn.
3. Remove hose from gates.	Proper tightness for seating.
4. Unscrew gates from outlets.	Danger of water hammer.
5. Replace hydrant caps by hand.	Purpose and action of hydrant drain.
6. Tighten caps with wrench.	Care not to injure gates.
7. Replace gates and wrench on wagon.	Precaution against cross-threading.
	Precaution against freezing in cold weather.
	Security against tampering.
	Importance of orderliness.

Another example, illustrative of a different type of set-up, but equally usable for an instructor, is adapted from a report of a course in training methods for police instructors.

ANALYSIS OF THE TEACHING UNIT

“FRISKING A PRISONER”

Teaching Points:

1. How to keep control of the situation.
 - a. Sizing up prisoner and deciding what to do.
 - b. Manner of officer, speech, evidence of meaning business, possible display of gun or easy access to same.

2. What orders to give and how to give them, as:

Hands up! Turn around! Place hands against wall!

Back out and spread legs as far apart as you can!

- a. Purpose of getting prisoner into "off balance" position.

3. Technique of search.

- a. Where to look, as: under arms; around belt, especially in front; between legs; pockets, hat, hatband, linings of clothes, sleeves.

- b. Proper placing of feet while searching, in order to be in a position to trip prisoner if necessary; use of gun while searching; use of fingers rather than palms of hand.

- c. Defensive methods if prisoner attempts any tricks.

THE SELECTION AND TRAINING OF INSTRUCTORS

In the discussion of this topic, it is assumed that the majority of those who are interested in matters relating to in-service training will look upon instructional work as one of the phases of the supervisory job. Generally speaking, there exists in industry a very definite tendency to classify the training of employed workers as one of the responsibilities of foremen and other first-line supervisors. Training on the job, with the supervisor, who is responsible for having the work turned out, assuming the responsibility for training those who do the work, is being more and more regarded as a sensible solution to a rather difficult and complex problem. Because of the fact that much of the instructional work carried on in connection with in-service training, therefore, will be handled incidentally as a sort of "side-line" by supervisors, foremen, and other minor executives, the selection and training of instructors are accordingly presented in this chapter.

In this connection, it is desired to point out that, even though training schools or departments may be established separate and apart from the operating departments of an organization, this discussion of the topic should apply equally well to the selection and training of instructors for such separate schools or departments.

TYPES OF TEACHING USUALLY NEEDED

In order to operate a reasonably comprehensive program of in-service training for employed personnel, the need for at least three types of "teaching" may be recognized without much difficulty. In the book *Foremanship and Supervision*, to which reference has previously been made, the three types are referred to as "educational procedures." The precise terminology to be used in any case, however, is a matter of secondary importance. The important thing is to recognize these distinct *educational functions*, each of which supplements the others and no one of which is either appropriate or satisfactory for all purposes.

REASONS FOR THE UNSATISFACTORY PERFORMANCE OF WORK

Ample justification for a differentiation of training methods or procedures is found by examining the principal reasons for the unsatisfactory performance of work by individuals on the job. The principal reasons for indifferent performance, or, in extreme cases, complete failure, are:

1. *Lack of the information needed* to do the work correctly.
2. *Lack of skill or ability to do* what is required.
3. *Deficiencies in the morale factor* as expressed by such statements as: "Can't get along with people"; "Lack

of social intelligence"; "Too many alibis"; "Lack of interest"; "A disturbing factor"; "Poor work habits"; etc.

4. *Inability to exercise judgment* and think straight when expected to make decisions when a superior is not present.

The first of these causes of job failure is adequately dealt with by some efficient means of supplying the information needed. In order to do a reasonably complete job of supplying needed information, some means should be employed to check up sufficiently to know that the information supplied has been received and that it is understood by the recipient.

The second cause listed is diminished, if not removed entirely, by utilizing appropriate teaching methods. When a good job of teaching is done, the instructor (or supervisor) knows whether the learner has or has not developed the necessary ability to do, because the check-up or inspection (step 4 of the lesson) is an integral part of the procedure.

The third and fourth causes of job inefficiency or failure are best dealt with by utilizing the conference procedure. This is a more difficult phase of almost every training program. The person in charge of it, usually referred to as a conference leader, needs to have a high order of skill, tact, and ability to deal with people on a conference basis. The technique of conference work is presented in detail in the book, *Foremanship and Supervision*; consequently no detailed discussion of the subject need be introduced at this point.

NEED FOR INDIVIDUALS QUALIFIED TO INSTRUCT

In view of the preceding discussion, it seems clear that, in every organization or subdivision thereof where in-service

training is to be carried on, one or more persons should be available who are equipped to carry on training either with groups or on the job. In order to be competent to do what is required, the persons selected should possess certain qualifications.

ESSENTIAL QUALIFICATIONS FOR INSTRUCTORS

These qualifications may be classified into three categories and arranged in their order of relative importance, as follows:

1. Knowledge of the field of work in which the instruction is to be given.
2. Ability to teach (1) what the person *knows* concerning his field of work and (2) what he can *do* in that field.
3. A well-balanced *personality*.

Suggestions as to the evidence that may be considered in determining the degree to which workers possess these qualifications are now discussed in some detail.

KNOWLEDGE OF THE FIELD OF WORK

Qualifications under this category are often described as "job competency," "experience on the job," "professional standing," or in other equivalent ways. Items of evidence which will be found useful in checking such qualifications are:

1. The amount and nature of the experience of the person in his special field of work.
2. The degree to which his ability has been recognized by his official superiors.

3. The degree to which he is recognized by his associates as an outstanding man in his field of endeavor, and
4. The degree to which he is highly regarded and respected by younger persons in the organization with which he is connected.

It is suggested that evidence such as that indicated is, in most cases, likely to be worth more in determining a person's status with respect to his knowledge of his field of work than a statement of "paper qualifications" is likely to be.

ABILITY TO TEACH WHAT HE KNOWS AND CAN DO

While qualifications under this category have been placed second in the order of importance, it should be clearly understood that the *ability to teach* can be developed through training. Experience has amply demonstrated that ability to apply good instructional techniques successfully can be developed in a much shorter time than is commonly supposed. This is true notwithstanding the fact that the highest type of ability in this field is often the result of a lifetime of progressive experience. In other words, no one ever arrives at the point where he knows all there is to know about teaching. The most successful and experienced teachers freely admit this fact. Only the upstart who knows a few things about it thinks he knows it all.

In practical terms, it may be stated that an occupationally competent person with a well-balanced personality can be sufficiently trained in approximately thirty hours to do a passable job of instructing others on matters relating to his field of work. An outline of a course worked out by the writer to accomplish this objective is given in Appendix A.

The preceding statements should not be interpreted as

implying that *all* occupationally competent persons can, in thirty hours, develop a passable degree of ability to teach what they know and can do. Other factors have to be taken into consideration. Some individuals lack sufficient patience, when dealing with persons who happen to know less than they do about some particular thing, to achieve success as teachers. Other personality traits and idiosyncrasies may heavily discount a person's ability as an instructor, even though he is a master of his subject and an outstanding performer in his field of work.

As stated in Chapter I, training is going on in every working organization where there is any turnover, whether the fact is recognized or not. It is therefore quite probable that many high-grade people have, in many cases, been teaching their understudies and associates informally and unofficially. Such persons are usually well liked by their associates. Very often they are regarded by them as natural-born leaders. Superior officers and supervisors assign new and inexperienced employees to work under their tutelage. In many instances squad supervisors, foremen, and other minor executives in charge of working groups owe their positions to the fact that they have functioned in these ways. To the extent that evidence can be secured to indicate that supervisors, foremen, straw bosses, leading men, squad supervisors, and other minor executives have demonstrated some ability to function informally as instructors on the job, the evidence would be of value in selecting individuals to be given an organized course in instructional methods. However, in view of the fact that the responsibility of all supervisors for the training of their working force is well-nigh inescapable, it would be entirely logical to provide some training in instructional methods for all supervisors—especially for those in immediate charge of work groups.

A WELL-BALANCED PERSONALITY

Personality is a word which is widely used, even though it is difficult to formulate a satisfactory definition of it. According to Webster, the psychological definition is: "The totality of an individual's characteristics, especially as they concern his relations to other people." For practical purposes in connection with the selection of persons to be trained as instructors, Pitkin * has furnished a more specific definition. It is substantially as follows: Personality is the *resultant* of four distinct characteristics which an individual may possess in varying degrees. These characteristics are indicated by the ways in which a person deals with: (1) things; (2) ideas; (3) other people; and (4) himself.

The way in which a person deals with *things* is an indication of mechanical ability, mechanical aptitude, or mechanical sense. A person who is conspicuously and obviously clumsy in using a simple tool such as a screw driver or a pair of pliers is lacking in these things. At the same time, he may be a very clear thinker and be well liked by those with whom he comes in contact.

The way in which a person deals with *ideas* is an indication of his intellectual ability or of his capacity as a thinker. A person who does not think things out for himself and who accepts, without question, unsound conclusions drawn by persons who are prejudiced or insufficiently informed, would not rate very high in his competence to deal with ideas. Ability to think clearly, to solve problems, and to form opinions on the basis of all the available facts is an indication of real intellectual power. A person may rate high in this respect and at the same time be lacking in

* *The Twilight of the American Mind*, by Walter B. Pitkin, Simon & Schuster, Inc., 1928.

mechanical sense and deficient in his ability to cooperate with others.

The way in which a person deals with *other people* is an indication of his social intelligence. This means ability to get along with one's business associates. It also implies the possession of those attributes which enable a person to make friends and hold them. A person who rates high in this characteristic is usually well liked by his associates and fellow workers. Conversely, an introvert, who did not mix well socially and who was more or less difficult to get along with, would rate low in this characteristic. A person might rate low in social intelligence and, at the same time, be a mechanical "wizard" and also a profound thinker.

The way in which a person deals with *himself* is an indication of his character. To be rated high on this characteristic, the individual would have to be fundamentally honest and decent. Intellectual honesty for an instructor is practically as necessary as common honesty. Fairness and a desire to deal with persons "on the square" are necessary attributes.

It seems entirely clear that one may rate high or low with regard to the four characteristics just discussed. A person who rates fairly well on all of them may be said to have a well-balanced personality. Such a balance is regarded as necessary for an instructor or for a person who is to function successfully on a supervisory job where instruction is a "side line" for him.

From the preceding discussion, we should realize that it is not always the most expert worker who makes the best instructor. Neither is it necessarily the clearest thinker, the best "mixer," the person who has the most impeccable habits, or the person whose sterling qualities of character are outstanding. What is most needed is a person who is not lop-

sided in any of these respects or, in other words, one who possesses a well-balanced personality.

TYPES OF ORGANIZATION FOR OPERATING THE PROGRAM

After a training program has been planned and outlined as a result of having (1) analyzed the need, (2) identified the principal objectives to be worked toward, (3) developed the analyses to be used as a basis for operations, and (4) selected and arranged for the training of those who are to serve as instructors, the next step consists of outlining a practical plan of operation. Obviously, there are many possibilities in this phase of the organization of a training program.

ALL THE TRAINING CANNOT BE FARMED OUT

One possibility that often comes into the picture is based upon the assumption that *all* the training can be handled by *outside agencies*. Those who favor the plan of "farming out" the training to university extension departments, colleges, public and private evening schools, and correspondence schools often fail to appreciate the fact that it is not possible to provide, through outside agencies, *all* the training needed. Where the idea prevails that all the training can be "farmed out" and arrangements for so doing have been made, it is practically certain that a considerable amount of training will still be going on within the organization. In cases where the supervisory force gives no attention to the instruction or training of workers it is altogether probable that a considerable amount of experimentation will be going on and that persons will be training themselves by the method of trial and error, and otherwise. The idea that *all*

the in-service training for employed personnel which may be needed can be supplied through an array of "courses" offered by an outside agency is unsound. However, courses set up and operated by outside agencies in harmony with appropriate objectives may be of inestimable value. For many lines of work, supplementary instruction supplied through public school evening classes, university extension courses, and correspondence schools has functioned and will probably continue to function as one of the principal ways in which employed workers can add to their educational preparation.

TRAINING ON THE JOB BY SUPERVISORS

Above and beyond all this, however, the fact remains that much of the *training* needed to bring about improvement in the performance of work is most effectively given *on the job*. In most organizations where the need for a program of in-service training has been recognized instruction given by supervisors incidentally, *on the job*, is likely to constitute one of the most important phases of the program. In proportion as supervisors realize this fact and are prepared to meet their instructional responsibilities effectively, a good job of training is likely to result.

CONDITIONS MAY INDICATE NEED FOR A SPECIAL PLAN

Special conditions which may be encountered from time to time will call for a more elaborate plan of operation. For example, assume that it has been found necessary to add seventy-five new men to a working organization of approximately two hundred and fifty. The work is of a technical nature and the desired number of adequately trained new workers cannot be found. However, new em-

ployees with considerable "background training" can be obtained. Under these conditions, many possible plans for the organization of the training may be considered. Five of them are listed and discussed below.

EXAMPLES OF WAYS IN WHICH A SPECIAL TRAINING NEED MAY BE MET WITHIN AN ORGANIZATION

1. Set up a training department designed to operate on non-productive work; assign the new men to that department and train them up to the point where they are sufficiently prepared to enter upon the regular work of the organization.
2. Set up a separate training department or section designed to work on productive jobs; place specially qualified men in charge as instructors and arrange for suitable work to be handled so that progressive training may be carried on; transfer persons to regular work in the department as they become qualified.
3. Designate selected men as advisers and have them assist the men in training individually, under the direction and supervision of the regular staff, with the understanding that the new employees will be given practical productive jobs within the range of their abilities when given the necessary instruction on the job by an adviser.
4. Place new men on practical jobs that are within the range of their abilities and assign them to work with more experienced men to whom the supervisor has delegated the responsibility for their instruction.
5. Assign jobs to men according to the work that needs to be done. Let them, to the best of their ability, figure out for themselves how to "get by" and expect them to sink or swim as the case may be, by their own efforts.

Each of these five possible plans has certain advantages and disadvantages which are worth considering. While the conditions as stated are somewhat unusual, some of the elements of the problem presented are typical of many situations where executives are confronted with a clearly recognized need for setting up training programs.

Separate training division, non-productive work. A consideration of the first plan, which calls for the separation of the training activities from the work of production, brings to light such *advantages* as:

1. It screens out unqualified men before they have an opportunity to bungle important work and interfere in other ways with regular production.
2. It relieves the regular working force of annoyances which are always involved in handling inexperienced workers in a department.
3. It provides a means of introducing less experienced men to the entire field of work of the department in advance of doing any productive work, and facilitates the learning of many things that they will need to know in order to perform practical jobs following the completion of their training periods.

Some of the *disadvantages* inherent to this plan are:

1. The high initial cost. All the work will have to be of a non-productive nature because of the necessity of utilizing practice work and pseudo or make-believe jobs.
2. There will be no immediate return for the time and effort expended in training, as the return, whatever it may be, will be deferred until some of those who have received the training demonstrate, on the job, that they can do the required work better and more intelligently than those who have not had the benefit of the training course.

Special training division, productive work. The second plan, which calls for setting up a separate training department or section designed to work on productive jobs, has one principal *advantage*. Theoretically, it relieves the superior officer and regular workers of any definite responsibility for training. This might be regarded as an advantage because of the reduced interference with the regular work of the department. However, certain *disadvantages* seem to be apparent relating to this plan, among which the more important are:

1. It is likely to be regarded as too expensive where the number of men to be trained is relatively small. For example, where there are only two or three to be trained, the entire cost of instruction, including the whole salary of the instructor, would be charged to non-productive labor in any cost-accounting system.
2. Possible conflicts of authority between instructors and supervisors may occur. This disadvantage is practically unavoidable. It can, however, be minimized to the extent to which the supervisor who is in charge of the regular working group and the instructor who is in charge of the work of the men in training on phases of jobs for which the supervisor is responsible cooperate in the interests of the whole job, in an efficient manner.
3. The responsibility for the training and the practical work done by men in training is divided between at least two persons. Again, this is an unavoidable situation and, as stated for the preceding point, can be minimized only through cooperation between the instructor and the supervisor.
4. This plan may involve too great a drain on the staff of competent workers. In other words, to take a first-class worker off production work and designate him as a

full-time instructor may handicap the organization for which the superior is responsible in a very definite way. If a considerable amount of training is involved, this drain upon the competent personnel may be sufficiently great to cause the whole plan to be regarded as costing more than it is worth.

Training on the job, using advisers. This plan, which calls for designating selected men as advisers and having them work with the men in training individually under the direction and supervision of the regular staff, has certain advantages and disadvantages as is true of all other possible plans. Among the *advantages* may be mentioned:

1. It brings the men in training into direct contact with the work of the department, without any conflict of authority between the supervisor and the instructor.
2. It brings about a better opportunity for the comparison of the relative abilities of individuals enrolled in the in-service training program. This point may be of very high value in cases where it may become necessary to lay men off, either temporarily or permanently, in the event that the operations subsequently call for fewer workers.
3. For advisers to work under the regular supervisor, or an assistant to the supervisor who will assume full responsibility for the instruction of the men in training, results in considerably less interference with production work than might otherwise be the case under some of the alternative plans discussed.
4. This plan relieves the supervisor of considerable detail work, and it need not take an undue portion of his time away from duties which obviously belong to a supervisor in charge of production work.

Among the *disadvantages* of this plan may be mentioned:

1. Competent and experienced men are taken off production work to function as advisers or to give instruction, as the case may be, thus reducing the number of well-trained men available. This disadvantage is not always as great as would be the case under Plan 2, previously discussed. It is, however, a real disadvantage.
2. The field of training for persons enrolled in in-service training programs is definitely limited to particular types of production work to which they are assigned, and which are carried on under the guidance and instruction of an adviser. This plan has definite limitations in this respect, beyond those which have been noted in connection with Plans 1 and 2.

Training on the job, working with experienced men. This plan calls for placing the men in training on practical jobs that are within the range of their abilities, and assigning them to work with experienced men to whom the supervisor has delegated the responsibility of their instruction. This also has certain advantages and disadvantages. Among the more important *advantages* are:

1. Interference with practical production work of the department is practically at a minimum. In any case, there is likely to be very little interference with the regular work operations of the department.
2. All the training which the individuals receive functions directly on the work which they are doing. In other words, the "cold-storage" feature which involves giving men instruction and training which they may need next week, or six months, or a year hence, is practically eliminated.

Among the *disadvantages* of this plan are these:

1. The responsibility for judging the work of each man being trained is distributed among all the experienced men with whom he has worked. This may result in difficulty for the supervisor when he attempts to make fair comparisons as between different individuals. This disadvantage also involves possible personal attitudes or animosities. Successful operation of this plan obviously depends upon freedom from non-cooperative or "sour" attitudes on the part of the experienced men who function as instructors on the job, and calls for a high degree of cooperation between the force of skilled workers and the supervisor.
2. The training which an individual receives is limited to specific classes of work, as no definite provision is made, ordinarily, for any training which will tend to assist the persons being trained to *organize* what they know, and develop the proper concept of the job as a whole. This disadvantage, however, can be minimized if the supervisor will make a definite effort to carry the training through what is termed "the generalization step." This may be accomplished either by good teaching methods, utilized formally or informally, and also by sensible adaptations of the conference method at such times and places as may be appropriate.

Letting learners sink or swim. This plan, which amounts to taking new and partly trained men into the organization, assigning work to them on the basis of the jobs that need to be done and then letting them figure out for themselves how to "get by," is almost equal to ignoring the need for training. This is a more or less primitive, if not brutal, method of handling new and inadequately trained persons who have

been employed to work in an organization. The few who survive the rough treatment indicated could probably be depended upon to develop into satisfactory workers, but the percentage who would become discouraged and drop out would be very great in most instances. This is probably the only *advantage* (?) that can be identified.

The principal *disadvantage* of this rough-and-ready plan—or lack of plan—is that it is likely to be the most expensive one that can be used. In view of the fact that training always costs money, the per capita cost of persons actually trained, *mostly through their own efforts*, would be very high, because of the large turnover of employees. Under this plan, should the work be at all complicated, it is probable that nine or ten inexperienced or partly competent employees would become discouraged and be lost to the organization for every individual who stuck to the job long enough to survive and acquire competency.

TYPES OF ORGANIZATION FOR DECENTRALIZED UNITS

Up to this point, the discussion of types of organization has been limited to those which are essentially local in character. By a local program is meant one which is set up and operated primarily to serve a particular organization or agency, the units of which are not widely separated. Other types of training programs may be set up to serve a number of widely scattered units distributed over a large area, as, for example, an entire city, an entire state, or a group of states. However, as local programs, where at all feasible, are generally to be preferred to any other type, some of their principal advantages and disadvantages are now discussed with reference to certain important characteristics of efficient training.

ADVANTAGES OF LOCAL PROGRAMS

There are many advantages which are apparent in the local-program type of organization. It is probably the best type for building up esprit de corps and other morale factors. Local programs are also more easily adapted to meet specific needs for training than more comprehensive programs serving several organizations would ordinarily be expected to be. A local program, developed within a single organization, tends to become a part of it, thus contributing to the continuity and permanence of training as an integral part of the whole operation. Local programs are easier to keep under control in the scope and objectives of the training than are zone or regional programs. Also, the time and expense involved in the operation of local programs are likely to approach a minimum.

With respect to these and other conditions which might be mentioned for local programs of training, the fact might well be recognized that, to the extent to which the training is carried on informally by supervisors, the program is necessarily a local one. It is only those phases of a training program which can be handled by someone other than the supervisor which are susceptible of being handled at all through zone schools, regional schools, institutes, short courses, or any of the other possible types of organization which are more or less in use in different fields. Such programs, therefore, conducted on a decentralized plan, are necessarily limited in scope to the more or less general aspects of the training. Such work, however, may have a very high value, and may supplement local effort in ways which are most effective.

DISADVANTAGES OF LOCAL PROGRAMS

The disadvantages of local programs are not particularly important. One of them is that personal contacts are limited because all the training is carried on locally or within an organization. The second possible disadvantage is that it may, at times, be difficult to secure able instructors, especially where a particular phase of the work is being carried on in a mediocre fashion. This is illustrated by the maxim that a stream can rise no higher than its source. If the instructors who can be secured locally are of mediocre or inferior ability, and it is desired to raise standards in the performance of work, it would obviously be advantageous to secure an instructor from the outside who knew more about his subject than any local person who was available, and thereby benefit from his more complete knowledge and experience.

CHARACTERISTICS OF EFFICIENT TRAINING

In general, it may be stated that the success of any training program will depend upon the degree to which certain characteristics prevail. Some of the more important of them are:

1. The degree to which progress is continuous is one important characteristic of a successful training program. Where training is decentralized, progress is likely to be made in spurts or in an intermittent way.
2. Another characteristic of a successful training program is that it is properly supported and "backed up" by those in authority. For example, a good local program should become a phase of operation in which the higher executives and officials of the organization will take justi-

fiable pride. The degree to which this will be achieved will depend, among other things, upon the amount of executive support given the program.

3. A training program will be successful in proportion as it meets the specific needs of those who are enrolled in it. This point may well be looked upon as an important "success factor" in the operation of any training program.

4. In order to accomplish the purposes or objectives of the training program, the working conditions must at least be sufficiently favorable to make it possible to do a good job.

5. Other characteristics of efficient training which have previously been mentioned, including group selection, appropriate time schedules, functional subject matter, and a number of others, will definitely affect the efficiency of operation of any local program, as well as of any other type of program.

TRAINING A RESPONSIBILITY OF MANAGEMENT

The idea is now generally accepted that training is a responsibility of management. This principle has long been accepted in industry and in business. In recent years it has spread to fields of public employment. For example, it is generally recognized that the chief of a fire department is responsible for the training of the personnel of his organization. Likewise, a chief of police is responsible for the training given to the law-enforcement officers and policemen who work in his organization. In general, line executives who are responsible for operations are regarded as being responsible for the job competency of the working groups under their supervision. However, the responsi-

bility for job training is usually delegated down through the line executives until it reaches the supervisors who are in immediate charge of work operations.

TRAINING ON THE JOB SUPPLEMENTED BY LEISURE-TIME CLASSES

The ideal situation seems to be realized when every supervisor in charge of a working group functions efficiently as an instructor on the job. Even where this situation prevails, however, it often happens that supplementary training may advantageously be given outside an organization, through leisure-time classes or some other type of organization for part-time education.

EXTENSION CLASSES

This type of organization is designated by a variety of titles, such as evening schools, trade extension classes, dull-season classes, refresher courses, university extension classes, and possibly others. Under the best conditions, the enrollment in extension classes is limited to persons employed in the occupations to which instruction given is related.

ADVANTAGES OF EXTENSION CLASSES

Extension classes, when efficiently organized and well conducted, provide a means whereby persons who are regularly employed may obtain such instruction as they need in order to become more proficient in their work. This type of organization makes it possible for such persons to keep themselves well informed with respect to changes, improvements, and new applications of science and tech-

nology in their respective fields. Another feature of this type of training is the opportunity which it provides for individuals to equip themselves for advancement in the same general field of work in which they are employed.

DISADVANTAGES OF EXTENSION CLASSES

Practically all the items mentioned under this caption would be more correctly designated as *tendencies* which are easily recognized in connection with extension class programs and which tend to discount their effectiveness.

The tendency to dilute the enrollment in extension classes with learners or beginners is unfortunate. To the extent to which this is done, undue emphasis is likely to be placed upon elementary phases of the subjects taught, with the result that the more experienced members of the group tend to lose interest. Another tendency is toward giving those enrolled what someone connected with the school *thinks* they need instead of finding out what the needs and interests of the group are and then setting up a program in terms of what the persons enrolled need and want. A third very important item is the quite general tendency to set up instruction which is sufficiently *general* to meet the needs of the average person enrolled and to arrange the program to continue over a considerable period of time. A better plan is to organize the work in specific units, each of which is complete in itself.

The convenience and the schedule of the organization providing the extension classes often determine the time and sequence for different subjects offered. Under conditions more flexible and favorable, the needs and convenience of those to be served are regarded as being of a higher degree of importance.

ZONE OR REGIONAL SCHOOLS

In many fields of work, the number of employees to be served through a training program may be so small that for this, and for other reasons, it may be impracticable to set up a local training program for them. The members of small-town fire departments and such county officers as sheriffs, fire-alarm personnel, water-works employees, and a number of others that might be mentioned illustrate this situation.

In order to meet this need, it has been found practicable under appropriate conditions to operate zone or regional schools. A zone school is a type of organization which is set up usually in a city or town to serve a surrounding area, such as a county or some other subdivision of a state. The purpose of the zone school, obviously, is to bring supplementary training opportunities within the reach of persons employed in local communities where the number to be trained is too small to justify setting up a local training program in their field of work.

ADVANTAGES OF ZONE SCHOOLS

One advantage of the zone-school type of organization is that it may tend to encourage uniformity in procedures followed in adjacent local communities, as, for example, in the fields of law enforcement and fire fighting. Because of this, cooperation between local communities will tend to be encouraged, as will also cooperation between urban and rural units in the same field of work. In other words, mutual understanding and respect will be one of the by-products of a well-conducted zone school in any field of work. This result alone often justifies the time, effort, and expense involved in establishing the program.

As indicated previously, the zone school cannot be expected to meet all the training needs that can be identified. It should be recognized as a training agency to supplement practical training on the job under supervision which, of course, must be taken care of locally, no matter how small the working group may be.

DISADVANTAGES OF ZONE SCHOOLS

Among the disadvantages which may be recognized in connection with zone schools, there is always the possibility that some of the training given will not have equal value for all the persons enrolled. Some zone schools may serve small towns and rural areas while others may serve fairly large towns or even large cities. In the field of police training, the rules, regulations and procedures to be followed may differ as between the several communities represented. In the field of fireman training, the equipment and methods of operation in rural areas are necessarily quite different from those used in large cities. Also, the distances which may have to be traveled by persons enrolled and the necessary cost of such travel might be items which would discourage or interfere with attendance at the school, and thereby discount its effectiveness.

With mixed groups, in which are enrolled representatives of a number of cities, towns, or industrial organizations, the opportunity to develop esprit de corps and pride in the organizations with which individuals are connected is definitely limited. For certain groups, as policemen or firemen, where training may be needed for new recruits or beginners, the zone school is a comparatively inefficient type of organization. Furthermore, there is always more or less uncertainty as to the permanence of a zone

school plan, which also necessarily tends to discount its effectiveness.

ZONE SCHOOL SUCCESS FACTORS

Any zone school program is likely to succeed in the degree to which the following conditions are realized:

1. It has the necessary backing of officials connected with all the organizations represented in the training program.
2. Instructors are qualified and there is sufficient interchange of instructors between different zone schools to bring the best available talent to every one of the schools.
3. It meets the specific needs of those enrolled.

In addition to these items for estimating the probable value of a zone school plan, all the conditions necessary for efficient vocational training, as discussed in other sections of this book, would apply.

INSTITUTES OR SHORT COURSES

Institutes or short courses are sometimes organized to provide training where zone schools, as previously described, would be difficult to organize and to operate. This type of organization usually provides three days to one or two weeks of intensive training, and very often is set up to serve persons engaged in a particular line of work throughout a state. For example, firemen's short courses are offered in a number of states. These courses are usually operated in cooperation with a state department of education or a state college or university, and sessions usually last from three days to a week. Short courses for other

types of occupations are more or less common also. For example, a short course on the adjustment, calibration, and repairing of electric meters, or a course, at a single point in a state, for inspectors of weights and measures, or for superintendents of fire-alarm bureaus, would serve to illustrate this type of organization. Such short courses or institutes are particularly well adapted to providing opportunities for extension training for those who represent occupations which enroll very few people, even in large cities. In other words, the personnel employed in the occupation is widely distributed, and at no single point is there a sufficient number to justify the organization of a class.

Institutes or short courses for many occupations are often sponsored by state colleges and universities and, in certain fields of public service, they are sponsored by governmental agencies. Regional conferences and national conferences may, to some extent, function in the same way as institutes or short courses, in that they often have as their objective improvement in the performance of work or the more effective meeting of responsibilities.

ADVANTAGES OF SHORT COURSES OR INSTITUTES

Some of the advantages connected with this type of organization are:

Where very little has been offered in the way of training opportunities, a few institutes or short courses may serve in an important way to stimulate interest in training for that field of work. This result has been clearly apparent in the field of certain public-service occupations. Short courses for firemen, policemen, traffic officers, fire-alarm superintendents, water-works employees, and others, may be cited as examples.

Through the work of such short courses or institutes, interest may be stimulated in cooperation between communities within a state or within a group of states. This interest may function eventually by bringing about more uniformity in fire-fighting procedures and tactics, or in better cooperation in the apprehension of fugitives.

Educational programs of this type definitely offer opportunity for profitable exchange of ideas. Practically all qualified persons who participate in short courses acquire a certain amount of information which they are able to carry back home with them and use. Under certain conditions, they may develop an appreciative understanding of new developments, and even acquire some new "doing ability" which they may apply to their work. To the extent to which such results are realized, institutes or short courses serve a useful purpose.

DISCOUNTING FACTORS FOR INSTITUTES

Some of the disadvantages of short courses or institutes are discussed in the following paragraphs. In the first place, where the program is improperly or unwisely handled, it may handicap or even delay future developments in training in particular fields. This is true because the offering of such a short course may be used as a justification for delay in setting up a worth-while local program. In other words, the fact that an institute or short course is held within a state once a year may be offered as an excuse for not providing any organized training of a continuing nature locally.

Another disadvantage is that only a very small percentage of those who should, in some way, be served through a training program can easily attend. Moreover,

those who do attend are, as a rule, under considerable expense, and often they are required to attend during the period which would normally be used for a vacation or some other form of recreation.

Institutes, as a rule, do not contribute much, if anything, to the morale within an organization, and may even tend toward the undesirable development of "star performers" rather than good team workers who will function efficiently in cooperation with others in the work of the organization with which they are connected.

Institutes or short courses necessarily attract persons who represent wide variations in experience, ability, and previous training. Consequently, good results, so far as training is concerned, depend very largely upon the degree to which the personnel is efficiently classified with regard to needs and interests. Because of the diversity of qualifications on the part of those enrolled, there is a strong tendency toward providing general covering courses, sometimes referred to as "shot gun" courses. Such courses are supposed to "scatter" sufficiently to make at least some impression upon every member of a group where no classification has been attempted.

CONDITIONS FOR EFFICIENT TRAINING APPLY TO SHORT COURSES OR INSTITUTES

The preceding items represent some of the more important difficulties likely to be encountered in providing efficient training through short courses or institutes. To the extent that serious training is attempted, all the conditions previously specified and explained which affect the efficiency of any training program would apply, with equal force, to extension classes, zone schools, or local programs.

CORRESPONDENCE COURSES

Where the personnel of an organization is widely distributed and, for this and possibly other reasons, it is impracticable to organize classes or instructional groups, the correspondence school or home-study course has a definite place.

In addition to the private schools which provide instruction by mail, a number of institutions of higher learning offer such opportunities. Also, a few state departments of education maintain divisions for correspondence instruction, and some of the departments and bureaus of the federal government operate correspondence courses. Among the latter may be mentioned the courses operated under the Treasury Department for customs inspectors, and correspondence courses provided by the Navy Department and the War Department for reserve officers.

ADVANTAGES OF CORRESPONDENCE COURSES

The fact that instruction by mail can be provided for personnel, however widely distributed it may be, is one of the outstanding advantages of correspondence courses. Another advantage is that each individual enrolled may progress at his own rate of speed without any special need for adjusting his rate of progress to that of others.

Correspondence instruction is particularly well adapted to informational objectives. Those who are responsible for the preparation of the lessons are confronted with the necessity of organizing their instructional material in a logical and understandable manner. As a result, correspondence courses are usually very well planned and the subject matter is efficiently organized.

DISADVANTAGES OF CORRESPONDENCE COURSES

One principal disadvantage of this type of organization is the lack of personal contact with an instructor. This is particularly serious when the student encounters difficulties and needs help. The lag between the time when the difficulty is experienced and the time when a reply to an inquiry can be received tends toward loss of interest. However, when the lessons are well organized and the scope of the instruction is limited to objectives which are practically attainable under the working conditions, this disadvantage is minimized.

Probably the outstanding handicap of correspondence instruction becomes apparent when training objectives which involve the development of "doing ability" are attempted. In such a situation, the absence of an instructor to demonstrate and teach the "how" and thereby make it easier for the learner to learn, makes it necessary for the student to teach himself. Under these conditions the learner becomes his own instructor and learns by experimentation and by the method of trial and error. Because of this serious deficiency, it is generally recognized that correspondence instruction should be limited to informational and appreciational objectives.

**POSSIBLE TYPES OF ORGANIZATION SHOULD BE CAREFULLY
CONSIDERED**

The preceding examples serve to indicate some of the possibilities for operating a program of in-service training and emphasize the fact that various possibilities should be critically examined and evaluated before a definite plan of operation is decided upon.

Where the advantages or disadvantages of possible plans of operation are not critically examined, it is more than likely that serious and expensive mistakes will be made which will delay or prevent the securing of tangible results from the training program and tend to make the whole idea of organized in-service training appear more expensive than it should be. An executive, observing a series of fumbling attempts for providing in-service training, is sometimes justified in deciding that the point of diminishing returns has been reached even before the plan is in full operation. In other words, he may decide that the cost of developing and operating a training plan which appears to be inefficient and ineffective far exceeds in dollars and cents any value that might come out of it in the way of better trained and more competent employees.

Regardless of what may be said in favor of in-service training as a desirable thing, the fact remains that all training is fundamentally a business proposition. The results should clearly be worth more than it costs to secure them. Unless this point is given due consideration, it is possible that a fairly efficient training plan which has many points of merit may be closed out on short notice in order to reduce overhead expenses.

The working conditions which affect the efficiency of any training plan are so intimately connected with the details of operation that a consideration of them is taken up in the chapter which follows. Experience indicates, however, that at least two fundamental conditions must be satisfied if any kind of a training program is to operate constructively and effectively with employed personnel. These two requirements, while elaborated upon in subsequent chapters, are of such basic importance that some preliminary emphasis upon them here may not be entirely out of place.

The first of these considerations is executive understanding and support for the training program. To give his support to a training program an executive does not need a detailed knowledge of training methods and procedures. Nor is it necessary for him to spend any great amount of time in considering details of operation. What he does need, however, is an understanding of the philosophy back of the training plan, a knowledge of the means used in formulating training objectives, and an appreciative understanding of the ways and means to be used to attain important objectives. So far as the author is informed, no organization has ever successfully established and operated a training program of any magnitude or significance, without adequate understanding of these things by the line executives of the organization concerned, from the top down.

The second essential for successful operation is efficient supervision in the organization. This is necessary because the function of supervision is intimately connected with practically every phase of operation of the entire training program. There are responsibilities relative to the training of employed personnel which can be satisfactorily assumed by none other than the supervisors in charge of work groups. This is true regardless of the degree to which efforts may be made to have instruction and possibly a certain amount of training provided by outside agencies. Under such conditions, the fact will still remain that the application of the instruction, on the job, will continue to be carried on under the supervisors in charge of work operations. Some constructive suggestions for improving performance of the supervisory function are made in later chapters.

ABSTRACT

In this chapter, the principal conditions necessary for efficiency in the operation of a training program are identified and discussed.

Sixteen training methods and devices which are commonly used are considered with reference to the three basic educational procedures: informational, instructional, and conference. The relative and intrinsic efficiency of these methods and devices is discussed in relation to the nature of the training objectives and working conditions under which the program is carried on.

The question of the size of groups for class and group instruction is examined from the standpoint of efficiency of operation. Also, attention is directed to the importance of training records and conference reports and to some of the dangers which should be recognized in connection with setting up and maintaining a record system.

The need for exercising sound judgment in dealing with problems of operation is emphasized, and it is pointed out that there is, after all, no satisfactory substitute for a person on the job who will use his head according to the conditions that prevail.

CHAPTER IV

The Operating or Putting-Over Stage

AS HAS ALREADY been indicated in preceding chapters, training programs are operated under a wide variety of working conditions. So far as the size of instructional groups is concerned, training is carried on which ranges all the way from the training of a single individual, on the job, to lectures given to large groups of several hundred persons.

A training program presents almost every conceivable combination of subject matter. At one extreme it is either compiled from available printed information or developed by some other "swivel-chair" method. At the other extreme, it is based upon a study of actual needs and analyses of specific job requirements.

FUNDAMENTAL CONDITIONS NECESSARY FOR EFFICIENCY

As far as the qualifications of instructors, supervisors, and others who conduct training programs or otherwise give instruction are concerned, wide variations are equally apparent. On the one hand there are instructors who know their subjects but who do not know how to teach; others who know how to teach but are lacking in substantive knowledge and work experience. At the other extreme there are persons who not only know their subjects but who also have a practical working knowledge of teaching methods.

Other conditions which affect the degree to which it is

possible to do a good job of training likewise prevail in almost endless variety. In view of this situation, it is clearly apparent that certain fundamental conditions must be satisfied if any training program is to function with a reasonable degree of efficiency. It may therefore be stated that any training program will be likely to function efficiently in proportion as:

1. The persons to be trained are properly selected.
2. The training objectives are appropriate and clearly defined and understood.
3. The instructor is qualified on the basis of the criteria mentioned in Chapter III.
4. The training content or subject matter has a functional value for the persons in training.
5. The working conditions are sufficiently favorable to make it possible to do a reasonably good job.

Obviously, there are many additional conditions for efficient training which might be discussed. Prosser and Allen, in their book, *Vocational Education in a Democracy*,* list nineteen "efficiency factors." Wright and Allen list a total of twelve appertaining to specific courses in their book, *Efficiency in Vocational Education*.† The writer, in his book, *Foremanship and Supervision*,‡ discusses fifteen essential conditions for efficient training. For the consideration of those who are primarily interested in efficient in-service training, however, it should be adequate to stress the five essential conditions for efficient training as previ-

* *Vocational Education in a Democracy*, by Prosser and Allen, 1925, Century Co., New York.

† *Efficiency in Vocational Education*, by Wright and Allen, 1929, John Wiley & Sons, New York.

‡ *Foremanship and Supervision*, by Frank Cushman, Second Edition, 1938, John Wiley & Sons, New York.

ously listed. Unless these five requirements are fairly well satisfied in connection with the planning, organization, and operation of a training program, a successful outcome can hardly be expected. Of the five essential conditions, numbers 2, 3, and 4 have already been discussed in the preceding chapters. It remains, therefore, to elaborate somewhat on numbers 1 and 5.

PROPERLY SELECTED GROUPS

Where but one person is to be instructed *on the job*, it is obvious that no one in the position of an instructor would attempt to teach him anything unless the learner needed and was ready and qualified to receive the instruction and benefit from it. In other words, with a single person employed in a working organization, it could fairly well be assumed that some of the fundamental conditions necessary for efficient instruction would be complied with automatically when he was taught something relating to his work. When training groups are formed, however, there is always the possibility of having persons with different interests and varying needs brought together to receive the same treatment. A certain amount of such diversification of interests is often unavoidable wherever extension training is carried on through the class or group type of organization. In many cases, because of prevailing conditions, the only feasible means of providing training is to organize classes or groups in order to utilize the available instructing staff to best advantage. Under these conditions it is obviously important to set up the best practical standards of selection that can be devised to the end that the personnel of the training groups may be as homogeneous as possible. A few examples of poorly selected groups may be cited.

EXAMPLES OF POORLY SELECTED GROUPS

1. An instructional group or class in a technical subject in which apprentices, or others of equivalent status, are enrolled with experienced and skilled workers of demonstrated ability.
2. A conference group formed to analyze and discuss problems of supervision in which are enrolled higher executives and prospective supervisors along with a number of supervisors.
3. A lecture or informational meeting planned to acquaint new employees with the prevailing rules and regulations, which the entire personnel of a working organization is required to attend.

SOME SUGGESTIONS FOR HANDLING
HETEROGENEOUS GROUPS

Where conditions are such that instructional groups, if formed at all, must be mixed from the standpoint of needs and interests, a reasonably satisfactory outcome may be expected to the extent that the instructors are sufficiently resourceful to do the best job possible under the working conditions. Heterogeneous groups, for example, may be organized into committees or subdivisions of the main group. These committees can be given assignments to work out under the supervision of the instructor. Individual assignments may be given to interested persons who are sufficiently advanced to work largely "on their own." Persons of less ability and experience can be handled as a special instructional group while the more advanced members are working with committees or as individuals.

In all such situations an efficient instructor acts according to the theory that the purpose of teaching is *to help individuals*.

viduals to learn (1) to know, (2) to do, or (3) to become. Students or learners always do their own learning. All that the instructor can do is to make it somewhat easier for them to learn. When an instructor gets the idea that all the time is wasted when he, himself, is not talking, the situation is so obviously inefficient that no comments need be made.

In connection with this discussion, it may be pointed out that where little or no attention is given to the question of selection, the general tendency is to set up a lecture program. While this is probably the least troublesome way of dealing with the problem, there is not much that can be said in favor of it from the standpoint of efficient training procedure.

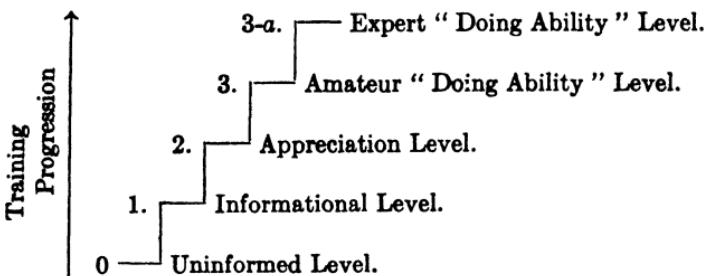
WORKING CONDITIONS

Some of the more important working conditions which directly affect the efficiency of operation of training programs are: the size of the instructional group, the length and frequency of group or class meetings, the time of day when classes or instructional groups are brought together, the question of whether the training is given during working hours or on the workers' leisure time, the place of meeting, whether the attendance is required or voluntary, the suitability of rooms, furniture, blackboards, etc., the nature and scope of the records, and the uses to which the individual and group records of training activities are put.

THREE PRINCIPAL CLASSES OF TRAINING OBJECTIVES

The proper size of the training group in any given situation depends to a considerable extent upon the nature of the training objective—whether it (1) is purely informational,

(2) designed to develop an appreciative understanding of something, or (3) contemplates the development of some degree of "doing ability." The distinctions between these three general types of objectives are portrayed in the accompanying sketch.



This sketch indicates the various stages through which a person progresses in learning specific things. In learning anything which is entirely new, an individual obviously starts at zero—the uninformed level. His first level of accomplishment is reached when he *acquires information* about the subject or job. Further study and learning by the individual cause him to arrive at a point where he has developed an appreciation or *understanding* of the subject or job. At this point he usually can talk about the subject and perhaps explain why things happen as they do. At this stage of learning, however, he has not yet developed any ability to do the job—he merely understands or *comprehends how it can be done*. Now if the subject or job which is being learned is a part of the individual's work, the next step necessary for him to develop is *ability to do*. As this stage is not reached "all at once" the diagram indicates two steps—*amateur doing ability and expert doing ability*.

For those items which, in the aggregate, constitute a

person's duties—*his job*, or what he is paid to do—it is necessary for him to possess *doing ability*. For most jobs, however, it is necessary for an employee to possess also a considerable amount of general and specific information to the end that he may do the things he has developed the ability to do, at the time and place that they should be done and with regard to the policies of the organization with which he is connected. This mass of information, for example, may refer to the work of other people. An individual employee may need to know something about what persons in other fields do on their jobs in order that he may function efficiently as a member of an organization. His knowledge in this respect, however, does not need to go beyond the informational or at least the appreciation level.

By way of illustration, it may be stated that a new recruit in a police department does not need to be trained beyond the level of *appreciation* with respect to a police captain's job. He does, however, need some reliable information about the captain's duties and responsibilities in order that he may properly perform his own duties as a member of the organization. By way of contrast, a new recruit must be trained in the proper use of firearms up to the level of *doing ability* in order to be worth much as a police officer. Here is a case where information about guns and an appreciation of how they could be used by someone else would be wholly inadequate.

SIZE OF INSTRUCTIONAL GROUPS

From the preceding discussion it will be realized that the number of persons that can be efficiently handled in any instructional group will depend upon the nature of the training objective. Lectures to large groups are often

appropriate when purely informational objectives are concerned. However, if any check is made to ascertain the degree to which the information is understood, difficulties are inevitable when the groups are excessively large. If the information to be made available is of great importance and it is essential that every member of the group should understand it clearly, either some opportunity for questions and discussion should be afforded or the information should be presented on paper. For appreciational objectives, all the disadvantages of dealing with large unwieldy groups are usually more greatly intensified than for informational objectives. For "doing ability" objectives, large groups are generally impracticable and unworkable.

There are disadvantages which are inherent in large instructional groups, and various devices have been utilized to minimize them. Lantern slides, strip films, and sound motion pictures have all been used with varying degrees of success. It sometimes happens, however, that the value of these devices is discounted by a failure to appreciate the fact that they are effective only so far as informational and appreciational objectives are concerned. "Doing ability," even on the amateur level, is developed only when the learner has used and applied in some practical way the ideas and information presented.

TIME ARRANGEMENTS FOR TRAINING GROUPS

As previously mentioned in this chapter, there are a number of items associated with time arrangements which may have an important bearing upon the degree of success which can be achieved in operating a training program for employed people. The length and frequency of group meetings, the time of day when groups or classes are brought

together, and the question of whether group instruction is carried on during work time or on the leisure time of the persons in attendance are probably the most important of the items to be considered.

The proper length of time for group meetings depends almost entirely upon the objective. If the objective is entirely informational, the proper length of the meeting is determined wholly by the amount and nature of the information to be transmitted and the efficiency of the person who transmits it. While no minimum limit can be set, however, there is a practical maximum limit which may vary from twenty to possibly forty-five minutes. For straight informational presentation by the spoken word, the span of attention for the average group is approximately twenty minutes. Even so, if very much information that is new is included in a twenty-minute presentation, it is still an open question as to how much of it will be retained unless something more is done about it.

In all probability the other extreme with respect to the length of period which is most efficient is found where the conference procedure is used. For the attainment of conference objectives, it is the opinion of the writer that periods should be not less than two hours in duration. Group thinking requires time. A conference group is usually only getting well started in the period of time which the average lecturer can expect to hold the attention of his audience. Because of this and other differences between the various educational and training procedures, the length of time for group meetings should be determined with respect to the training objectives and the training procedures to be followed in each case.

FREQUENCY OF MEETINGS

With respect to the frequency of meetings of training groups, it may be stated that this also should depend upon the nature of the objective and the type of training procedure to be utilized. In general, it will be found most efficient to "bunch" the group meetings to a reasonable extent for specific units of instruction or training. For example, a training program for supervisors which called for two or possibly three conferences a week for a period of six weeks or thereabouts, would probably be much more efficient and satisfactory than if the same ground were covered through meetings held once a month for an entire year. Where the interval between conferences or group meetings is too great, lack of continuity figures definitely as a discounting factor.

The question of the time of day most suitable for group meetings or conferences is usually directly associated with the problem of whether the training should be given during working hours or on the leisure time of the persons affected. These questions cannot be answered categorically. Advantages and disadvantages can be cited on both sides, and what is the best time arrangement in any given situation should be determined with regard to the circumstances which prevail at that particular time.

DISADVANTAGES OF LEISURE-TIME PLANS

So far as leisure-time plans are concerned, there are a number of difficulties that are more or less evident. They are:

1. The persons enrolled in the training group are probably tired after having performed a full day's work.
2. Often, when classes are held in the evening, many members of the group will go home for dinner and then

come back. This consumes considerable time and also places an additional load on the persons concerned.

3. Leisure-time classes reduce the employees' time which is normally used for recreation, the meeting of social obligations, and the performance of duties in and about the home.

4. Where evening classes are held at a point which makes it necessary for members of the group to travel long distances, they may get to bed so late as to impair their efficiency on the job the next day.

5. With an evening schedule, the periods are necessarily short, especially for conferences. This tends to discount the effectiveness of the program.

Attendance at evening classes, in practically all cases, is on a voluntary basis. The conditions listed above, and others which might be added, tend to make it difficult for many of the persons to be served either to take the work at all or to continue in it over a considerable period of time. In other words, a leisure-time program tends to be ineffective for at least two important reasons. First, it may fail to reach a portion of the group to be served, and, second, it may fail to hold them.

The preceding disadvantages of evening classes are believed to apply with particular force to supervisory groups. Supervisors in charge of a considerable number of people work with their heads more than with their hands. Because of this they are likely to be mentally tired after a full day's work. When this situation prevails, the work of a first-class instructor or conference leader may be heavily discounted. Moreover, the average supervisor or executive cannot continue to participate in an intensive training program on his leisure time for very long and still

maintain top efficiency in his job. Many who have studied this question believe that supervisors and executives ought not to be placed in a position where they have to give up their leisure time in order to improve themselves in their work. This is particularly true when the improvement is primarily for the benefit of the employer rather than for the personal benefit of the individuals concerned.

CLASS OR GROUP INSTRUCTION ON WORK TIME SOMETIMES IMPRACTICABLE

Obviously there are many situations in which the need for a training program may be recognized, and at the same time the conditions are such that it is highly inconvenient or practically impossible to relieve employees of their duties in order that they may attend training classes or groups during working hours. This may be the case, for example, in a penal institution where the number of officers available at any given time is at the minimum necessary to cover the essential posts. In such situations it is sometimes found possible to work out a combination plan so that training groups can be organized for one-hour periods either immediately before the group members go on active duty, or immediately after the close of their period of duty.

Another type situation in which it often seems to be impracticable to hold classes during working hours is where the employees are widely scattered. For example, apprentices in the building trades may be at work on many construction jobs in different parts of a large city. To assemble these apprentices at a central point for training in plan reading during working hours might be regarded as both inconvenient and unsatisfactory for a number of good reasons.

DIVISION OF TIME FOR GROUP INSTRUCTION

In cases where all the persons to be enrolled in a training program work in the same building or establishment, and where conditions make it impracticable to conduct class or group instruction during working hours, it has often been found to be fairly satisfactory to divide the time for training equally between work time and leisure time. Where the time is thus divided and training groups are assembled, say thirty to forty-five minutes before the closing hour, and continue for an equal period subsequent to that time, many of the disadvantages connected with leisure-time training plans are definitely reduced.

ADVANTAGES OF KNOWN TIME SCHEDULE

Where group instruction is carried on, there is considerable reason for believing that the efficiency of the training program is enhanced if definite units of training are presented according to a known time schedule. Where this is done, a specific unit of training is started on a particular date with the understanding that it will continue at regular intervals for a definite number of days, weeks, or months. At the close, members of the group know that they have completed something specific. This realization may heighten their interest in making further effort. By way of contrast, training programs are being successfully operated on continuous schedules, without any clearly defined breaks in the schedule. The question of setting up a time schedule, as well as other matters relating to operation, should be decided on the basis of the conditions which prevail in a particular organization at any given time.

EDUCATIONAL PROCEDURES

It has previously been pointed out that there are three principal educational procedures which may be utilized in operating a training program. The first of these, the informational procedure, is, as the name indicates, primarily concerned with the exchange of information. The second, the instructional procedure, is utilized when the objective is to enable the learner to acquire the ability to do something of a tangible nature which he could do imperfectly, or not at all, before being instructed. The third, the conference procedure, is useful when the objective is to promote individual and group thinking, increase the ability of individuals to exercise judgment, stimulate cooperation in an organization, organize experience, and in other ways to build up morale.

TRAINING METHODS AND DEVICES

In connection with each of these procedures there are various methods and devices that may be utilized. These are now discussed from the standpoint of their relative efficiency under different types of working conditions. No attempt, however, is made either to list or to discuss all the methods and devices that may serve a useful purpose in the field of employee training. It is, rather, the purpose to point out some of the more important facts in which practical men, responsible for the operation of training programs, are likely to be interested.

This is a partial list of instructional methods and devices which may have a place in an in-service training program:

1. A series of disconnected lectures.
2. A series of coordinated lectures.

3. Lecture and textbook or other follow-up reading.
4. Lecture and quiz.
5. Lecture, followed by questions.
6. Textbook, instructor present.
7. Textbook—no instructor.
8. Conference.
9. Lecture followed by conference.
10. Conference with follow-up reading.
11. Study and recitation.
12. Demonstrations, explanations, and note-taking.
13. Formal lessons, followed up by supervisor.
14. On the job, under supervision.
15. Trial and error—*expérimentation*.
16. Imitation—*emulation*.

SUITABILITY OF METHODS AND DEVICES DEPENDING UPON NATURE OF THE OBJECTIVE

Of these methods and devices, numbers 1 to 7 inclusive and also 9, 10, and 11, are more or less suitable for use with informational objectives. To some extent also the same ten methods or devices may be useful in putting over appreciational objectives. The degree to which something more than imparting information might be accomplished would depend upon the use made of charts, illustrations, and other devices to supplement the spoken or written word. For example, a "lecture" delivered through the medium of a sound motion picture has remarkable effectiveness in connection with both informational and appreciational objectives. At the present time, however, suitable films for training purposes are not available to any great extent.

Demonstrations, explanations by the instructor, and note-taking by the pupils (Method 12) is a procedure particu-

larly effective in the attainment of appreciational objectives.

Methods numbered 13 and 14 are the principal ones applicable where the training objective includes the development of "doing ability." Obviously 15, the trial-and-error method—or learning by experimentation—and 16, imitation or emulation, may also eventuate in "doing ability." However, in organizations where these training procedures are tolerated with the rank and file of employees, instructors and training officers are not needed.

Where the training objective relates to the organization of thinking, the identification of responsibilities, the promotion of cooperation and other outcomes of conference work, 8, together with 9 and 10, are the ones which are clearly indicated.

LIMITATIONS OF THE LECTURE METHOD

The lecture is probably one of the oldest methods of teaching. It was used when ordinary people lacked the ability to read and write. It was about the only means by which they could be supplied with information concerning things which they, themselves, could not see and observe. The fact that in ancient times the art of printing had not been developed, and that books as we know them were non-existent, made it necessary for leaders and teachers to preach or lecture to their followers or students. At a later period in the history of the human race, such books as were in existence were expensive and hard to get; consequently, in the early institutions of learning the teachers or professors had easiest access to them. It was but natural therefore that professors should study the available books and manuscripts and then, by word of mouth, convey to others what they thought or what they knew. After

writing became a fairly common art, students would endeavor to write down what the professor had said; hence the development of note-taking.

The real value of any method or procedure used for training purposes is directly proportional to the amount of activity stimulated by it, on the part of the persons in training. This activity may be mental or physical or both. In proportion as the learner gives concentrated attention to a lesson or unit of training, and does the amount of definite and hard thinking and work with the hands necessary under the circumstances, the training will be effective. In other words, the efficiency of any instructional method or training procedure can be evaluated in terms of (1) the degree of interest that it arouses and holds, (2) the thinking which it stimulates and encourages, and (3) the activity, mental or physical or both, which it requires.

The lecture, as such, does not rate very high with respect to these criteria. One reason for this is that the class or audience tends to be in a passive rather than an active state of mind. Note-taking tends to distract the attention of the group and also to discount the effectiveness of the presentation. The average group tends to become more or less inattentive and restless after about twenty minutes of straight lecture; consequently various devices are often used to secure continuity of attention. Pictures, lantern slides, charts, blackboard sketches, and exhibits of various kinds are all useful for this purpose.

In spite of all these disadvantages, the lecture method has a definite place in most training programs. For example, the lecture has a high value in dealing with groups which are already well informed on a subject and where the lecturer attempts to make only a small addition to what they know.

Lectures from which no tangible results are expected really have no legitimate place in training programs. It is therefore desirable to use the lecture method with discrimination in operating such programs. Wherever possible, lectures when utilized should not only be coordinated; they should be supplemented by questions, follow-up reading, conference discussion, as indicated in the list of instructional methods and procedures given on page 137, and in other practical ways. To the extent to which this is done, results of value in connection with the use of the lecture method in the training program may be looked for.

METHODS SUITABLE FOR "DOING ABILITY" OBJECTIVES

While as indicated previously, persons often acquire "doing ability" by trial and error and also by imitation, these methods of learning or self-instruction should receive limited recognition in connection with training programs designed to bring about improvement in the performance of ordinary work. To utilize them practically amounts to admitting (1) that instructors are not needed or (2) that no instructors can be obtained who are sufficiently equipped to function efficiently in the field of work in question.

The fact should be kept in mind that those engaged in experimental research who work on the frontiers of human knowledge utilize the trial-and-error, or experimental, method of extending the limits of what is known. In other words, they teach themselves by this method. Notwithstanding this fact, the method is not a good one to use for ordinary training objectives. In the great majority of cases, it will be found to be too expensive in terms of such things as time wasted, incorrect habits of work which may be formed, discouragement of the learner, material spoiled,

substandard work produced, and, in many occupations, preventable accidents.

In view of these facts, it appears that of the sixteen methods listed on page 137 only two of them—13, the formal lesson followed up by the supervisor, and 14, on the job under supervision—are directly applicable to situations where the training objective is set up in terms of "doing ability." It is, of course, clearly apparent that certain lecture courses and also textbook courses may contribute to the development of "doing ability." This is particularly true with respect to technical and administrative work where the application of new ideas to the work in hand can readily be made by individuals without the direct help of an instructor. However, the person who is responsible for a training program should always keep in mind the distinctions to be recognized between the essentially different training methods and procedures that may be utilized in any given situation, to the end that the ones selected may yield the greatest return for the time, effort, and expense involved.

THE CONFERENCE PROCEDURE

The purposes which can be efficiently served through utilization of the conference procedure have already been referred to in previous pages. Moreover, the different types of conference objectives and the means which may be employed to attain them are so well covered in the book, *Foremanship and Supervision*, that any repetition of what is there given would appear to be unnecessary at this point. For those who have had little or no first-hand experience with training conferences, however, it may be worth while to point out a few important considerations which should receive attention.

142 THE OPERATING OR PUTTING-OVER STAGE

From the standpoint of *intrinsic efficiency*, the conference as an educational device ranks very high. This is true, however, only when it is used for the type of objectives for which it is appropriate and when the group characteristics and the working conditions are favorable.

According to Webster, "intrinsic" is defined as "belonging to the inmost constitution or essential nature of a thing; inherent, not merely apparent or incidental." In view of this definition, high intrinsic efficiency relative to the conference may be understood to mean that the educational "yield" from conference work is high in proportion to the "input" of time, effort, and expense, because the procedure is, of itself, efficient. By way of contrast, the intrinsic efficiency of the straight informational lecture is low. The educational "yield" or the training values realized are usually small in proportion to the input of time, effort, and expense, because the procedure itself is inherently inefficient. To illustrate, the modern tungsten filament incandescent lamp is inherently or intrinsically more efficient than the old-fashioned carbon filament lamp because it gives more light and less heat for the power input. The modern steam turbine is intrinsically more efficient than the old-fashioned slide valve steam engine because it develops more power when an equal quantity of steam passes through it.

Because of the high intrinsic efficiency of the conference as an educational procedure, it often happens that attempts are made to use it under conditions where it cannot possibly function. For example, the conference procedure is no good at all for teaching *new* subject matter. To attempt to use it for this purpose would be just about as absurd as to try to spade the garden with a baseball bat or to attempt to use a spading fork for a bat in a ball game!

Again, the conference is of little or no value when dealing with inexperienced groups. Attempts to conduct conferences on questions relating to fields of work in which the group members have had no experience degenerate into guessing contests. Speculative thinking may have a place, but, in most practical situations, that place is not to be found in a training program.

It was the author's privilege to conduct a one-week conference in February, 1939, with a carefully selected group of law-enforcement officers. Eleven officers participating in the conference represented a total of 225 years of experience in police and other phases of law enforcement work. Moreover, all of them were responsible for the operation of training programs for police and other law-enforcement officers. Of the 225 years of experience represented, a total of 121 years, collectively, had been devoted to such training. Obviously, the members of this group were well qualified, from the standpoint of experience, to participate in the discussion of questions relating to efficiency in police training schools and to recommend training standards and other criteria for such training.

TRAINING RECORDS

There are many excellent reasons for maintaining adequate records of training activities. The very fact that a record is made tends to stimulate and maintain interest. Moreover, it is good practice from the standpoint of personnel management to recognize effort, especially when employees make a sincere attempt to learn things that will tend to make them more competent in their work. Also, records of training are always of potential value for reference. A record of each unit of training completed by an

144 THE OPERATING OR PUTTING-OVER STAGE

employee, with some indication of the effort expended and the results achieved, would seem to constitute worth-while data to be filed in the employee's personnel folder. Such data should be not only of value in connection with the work of rating and classifying individual employees, but also of very definite value in selecting individuals for promotion to jobs involving greater responsibilities.

DANGERS TO BE RECOGNIZED

In connection with this whole question of records, there are some dangers and pitfalls which should clearly be recognized. In the first place, there is always the danger that influences will be brought to bear to make the record system a perfunctory thing, devoid of all or most of the characteristics which it should have. For example, the accumulation of credits may become the objective of individuals who slight their work, evade, or side step their responsibilities, fail to cooperate with their associates, and otherwise fail to function on the job as first-class workers. When a record system results in placing a premium on what a person *knows* regardless of what he *does* on the job for which he is paid, the system defeats its own purpose.

The fact has been brought out at a number of points in this book that much of the in-service training which is carried on in any organization is operated in an exceedingly informal manner—oftentimes by a supervisor. Such instruction and training is usually carried on incidentally, on the job, with single individuals. In most cases, there is no formal record kept of the instruction. All that is apparent on the surface is that the work is going forward smoothly with an absence of confusion, without waste of material or damage to equipment, and without any serious accidents.

This informal training, valuable as it is, is the kind on which adequate records are least likely to be kept. Efficient supervisors carry it on because it is necessary to do so and they believe that it is a part of the supervisory job, as it really is. Any system of records on training which is intended to be reasonably comprehensive and complete should take cognizance of informal training on the job. Some way should be devised to assure adequate recognition of all training which actually functions in improvement in the performance of work, regardless of the degree of informality with which it is carried on.

CONFERENCE REPORTS

In conferences conducted for the accomplishment of educational or training objectives, it is seldom if ever desirable to keep a detailed record of everything that is said. To do so has a blanketing or dampening effect upon the discussion. It is desirable, however, to summarize the results of conference work, preferably in the form of a condensed descriptive report. Also, from time to time, conference groups may be expected to report to higher executives their recommendations with respect to changes or modifications of prevailing policies or methods. A recent example of the value of this procedure is found where, after a series of supervisors' conferences, fifteen specific constructive recommendations were made. Fourteen of these were considered and adopted by the executive in charge locally. The fifteenth, which could properly be passed upon only by the home office, was submitted through official channels and accepted. All these recommendations referred to matters with which the supervisory force came in contact but to which the higher executives would not be expected to give

personal attention. The case illustrates one way in which supervisors and minor executives can cooperate with their superior officers.

NEED FOR JUDGMENT IN RUNNING PROGRAM

In summing up this discussion of instructional methods and procedures, it may be pointed out that, in dealing with operating problems in the field of training, there is no satisfactory substitute for a person on the job who will use his head according to the conditions that prevail. In most, if not all, practical training situations, there are many variables to be considered. These include the size of groups to be handled, the frequency of group meetings, the question as to whether the training is preparatory or extension in nature, whether the classes or group meetings will be held on work time or leisure time, the time of day for class sessions, the nature of the training objective, the availability and competency of the instructors, the equipment and other facilities available, and probably a number of other items. In view, therefore, of the complexity of the problems encountered in operating training programs, it is believed that the principal service which can be rendered by way of the printed page to those who are responsible for such operation is to help them to view their problems from several different angles and thus develop a more substantial basis for exercising judgment and making decisions. This is the purpose which the author has in mind in this as well as in other chapters of this book.

Seldom, if ever, do worth-while training programs develop at a rapid rate. Doubtless this is to some extent true because of the fact that all real education is a matter of growth. The time element always enters into the picture.

No one would plow a field, put in a crop, and then expect to harvest the crop the next day. Time is required to permit the vegetation to grow and finally to mature. Attempting to set up a functioning training program all at once involves difficulties somewhat similar to those which would be encountered in attempting too quickly to set a long train of railroad cars in motion at high speed. If sufficient power is applied in an attempt to attain high speed *all at once* the result is a pulled draw bar and a sudden automatic application of the air brakes. At least one important element of a training program, especially for supervisors, involves the "planting" of ideas and the development of appreciative understandings and attitudes. To the extent that the end product as to these things is satisfactory, each individual to be served must be allowed sufficient time to do his own growing. Trying to force this growth is usually quite as unwise as attempting to speed up other natural processes which, for the best results, require time for their fulfillment.

ABSTRACT

This chapter is intended primarily to direct the attention of executives, and those who have the immediate responsibility for the operation of training programs, to some of the important points which should be considered carefully before attempting to design a plan for checking up on the efficiency or effectiveness of training activities.

The two principal types of evidence that can be utilized, statistical and non-statistical, are discussed. It is pointed out that statistical data or evidence must be gathered, interpreted, and utilized with discrimination in order to avoid possible unfortunate results, and that non-statistical data are difficult to secure except on a sampling basis and may be misleading. Included in this chapter also are a number of practical suggestions designed to assist the executive, the supervisor of training, or the instructor, in recognizing, interpreting, and evaluating different kinds and types of evidence.

In connection with the entire discussion, the dangers involved in drawing general conclusions from limited or incomplete data are emphasized.

CHAPTER V

Checking the Outcomes of the Training Program

FROM a theoretical standpoint, it would be difficult to overstate the desirability of having some efficient means whereby the results or outcomes of a training program may be measured. That it would be desirable to know at any given time, and with some degree of certainty, that the training is functioning in terms of the objectives set up requires no argument. However, a practical appraisal of the results of a training program is not a simple task. Many difficulties are encountered. The degree to which evidence that has a bearing on the question can be obtained and the values which can be placed upon different kinds of evidence are points of major concern to the individual who has the responsibility of planning and operating a training program.

In this chapter, an attempt is made to discuss a number of points relative to checking up, which, it is hoped, may have a suggestive value to the person who has that responsibility.

WHAT IS MEANT BY A CHECK-UP?

A check-up is essentially a process of interpreting and evaluating types of evidence. Assuming that a training program has been placed in operation, there are various

ways and means by which at least a partial or incomplete evaluation of its effectiveness can be made. This matter of checking up is rendered difficult because of the fact that many of the values which one would like to check and to measure are more or less intangible. Moreover, some of the values which may be derived from a training program are highly volatile and may disappear in a very brief period of time. For example, a cooperative attitude, evinced by increased willingness on the part of two or more individuals to work together in the interest of the job as a whole, which may have resulted from effort expended toward that objective in the training program, may be quite completely neutralized in much less time than was required to build it up. One way of discounting the values resulting from an improved attitude is for a higher executive to say or do the wrong thing at the right time, and thus furnish the stimulus necessary to cause the persons concerned to revert to their former individualistic attitudes with a primary interest once more in protecting themselves and letting someone else worry about the larger aspects of their work. Another way of obtaining a similar result is to impose a too elaborate system of statistical control and require detailed reports covering all situations where men have willingly and cheerfully cooperated and worked together, not because they *had* to, but because they *wanted* to.

A check-up, made or attempted while a program is in operation, or during the "putting-over" stage, should not be confused with a follow-up associated with training activities. The latter properly belongs in the *maintenance* or "holding-on" stage of the training program as discussed in Chapter VII.

A check-up while training operations are under way deals with ways and means of finding out whether or not the

program is being handled in such a way that the objectives are being attained or at least worked up to. In other words, a check-up while the program is in operation is equivalent to finding out (1) if the program is headed in the right direction and (2) if it is making progress toward a predetermined objective which was believed to be important and worth while at the time the training program was in the planning stage.

VALUE OF A CHECK-UP

Doubtless there are many reasons why more has not been accomplished in the development of constructive suggestions for applying efficient methods of checking up to training courses or programs. However, the fact that many have regarded the check-up during the putting-over phase as too difficult or too impracticable suggests some of the more obvious reasons why more has not been done. Another possible reason why ways and means of checking on progress have not been sufficiently examined is that there are many variables which must be recognized and given proper consideration. These variables increase the complexity of the problem and make its solution more difficult. Such items as the maturity and experience of groups, variations as between individuals with respect to basic educational equipment and ability to think, and wide variations in the instructional devices and teaching procedures that may be utilized in a variety of situations may be cited as examples of this.

Notwithstanding the obvious nature of some of the difficulties which are apparent, it seems to be quite clear that the person who takes such observations as are possible, for the purpose of determining where he is at any particular

152 CHECKING OUTCOMES OF TRAINING PROGRAM

time, follows a much more sensible procedure than he who goes ahead blindly, trusting to luck that things may turn out all right.

POSSIBILITY OF MAKING AN EFFECTIVE CHECK DEPENDS UPON SEVERAL FACTORS

The answer to the question as to whether or not it is possible to make any worth-while check on a training program while it is in operation depends upon a number of factors. Among the more important of these are: (1) the nature of the objective, (2) the working conditions, (3) the attitude of executives, and (4) the ability of the instructor to evaluate evidence and to discriminate between what is significant and what is superficial or irrelevant. These four factors which enter into a consideration of the question are here briefly discussed.

THE NATURE OF THE OBJECTIVE

In proportion as the training objectives are definite and specific, it becomes possible to check the progress of the program. Conversely, to the extent that the training objectives are general, vague, and lacking in definiteness, it is impracticable to apply checks which will shed any light upon the effectiveness of the work.

To illustrate the difference between a definite and specific objective and one which is general and more or less vague, the following examples are given.

One specific objective of training prison officers might be: "to develop the ability to handle recalcitrant prisoners." Before having been trained in the technique of jujitsu, three officers working together ineffectively had failed to get a troublesome prisoner out of his cell. Another officer, who had been trained to perform such duties, tackled the job

and brought the prisoner out single-handed, with no apparent difficulty, and much to the surprise of the prisoner himself. The point here is that when the objective of a unit of training is to develop the skill necessary to perform specific duties in an approved manner, it is a simple matter to check the effectiveness of a training program by the degree to which the persons trained can measure up, on the job, in terms of the training objective. After all, an efficient training program consists of nothing more than an aggregation of specific units of training, and, to the extent that each unit is definitely directed toward a tangible training objective it becomes possible to make an effective check on the results of the training.

By way of contrast to the preceding example, a general objective for training prison officers might be: "to make officers more intelligent with respect to prison procedures and practices and to enlarge their understanding of the general field of penology." While this objective cannot fairly be criticized from the standpoint of its importance in connection with a training program for prison officers, it is evident that it would be exceedingly difficult to check in definite ways in order to determine the degree to which the objective has been attained.

THE WORKING CONDITIONS

Under this item are included many details which affect not only the operating efficiency of a training program but also the facility with which a going program may be checked up. The location of classes or groups, whether the training is given on the men's time or on working time, the number and frequency of the meetings, the time of day for meetings, the length of the meetings, the physical equipment, and the provisions which may or may not have been

154 CHECKING OUTCOMES OF TRAINING PROGRAM

made for the physical comfort of the group are items which may be included under the general classification "working conditions."

The location of classes or instructional groups, or the place or places of meeting, is an important factor. Where groups are assembled with a minimum of formality in, or closely adjacent to, the place where they are employed, it is likely that the group members will feel that the program is definitely associated with their regular work. This feeling may tend to encourage the idea on the part of individuals that the purpose of the training program is to secure improvement, in specific ways, in the performance of work. To the extent to which this feeling is engendered, the training program is likely to function in terms of the objectives set up. For example, a group of fire-department officers meeting in a conference room at fire headquarters is more favorably located than if the place of meeting were a high-school class room some distance from a fire station. Furthermore, under the more favorable conditions a check on the operating efficiency of the program would be more likely to yield information of value.

Questions concerning the time schedule for meetings, including some of the advantages and disadvantages of conducting programs on the men's leisure time or on working time, the nature and adequacy of the physical equipment provided, and other items which may properly be classified under "working conditions" may well be given careful consideration by the person who has the responsibility of checking up on the training program while it is in operation.*

* A discussion of several of these factors are found in *Foremanship and Supervision*, by Frank Cushman, Second Edition, 1938, John Wiley & Sons, New York.

THE ATTITUDE OF EXECUTIVES

As has been pointed out elsewhere in this book, the degree to which an effective training program of the in-service type can be organized and operated in any organization depends to a very great extent upon the attitude of the executives who have authority over the working force and who formulate or interpret policies for the work of the organization. It is practically obvious that an otherwise excellent training program can amount to but little if the executives higher up do not really believe in it and have a critical attitude with respect to its various phases and possible outcomes. Even though the executive at the head of an organization may say very little to indicate, in tangible ways, that his attitude is negative toward the training program, the fact that he *has* that attitude necessarily has a dampening effect upon whatever may be attempted. To the extent to which the attitude of executives is not definitely known, it is difficult to accomplish very much of value in attempting to check up on the effectiveness of a training program.

In this connection it is probably safe to say that a favorable attitude on the part of the executive tends to make it easier to work toward objectives which relate to improvement in the functioning of the organization for which the in-service training program has been set up. Conversely, a negative, critical, or otherwise unfavorable attitude on the part of executives may actually tend to encourage those enrolled in a training program to get what value they can out of it while the opportunity lasts, in order that they may be better equipped to transfer to some other organization where they have hope that they may be better satisfied with their jobs and consequently happier in their work.

156 CHECKING OUTCOMES OF TRAINING PROGRAM

It should be recognized that many of those things which affect the attitude of workers are more or less intangible, and, in practice, difficult to isolate or identify with certainty. However, the sum total of these intangibles has an important bearing upon the *morale* of a working organization, whether the organization is operating in the field of public service or in private industry or business.

Intelligent executives generally realize the value of morale as indicated by such things as *pride in the organization*, *effective team work*, *interest in the work as a whole*, *job satisfaction*, *loyalty within the organization*, and many other things which indicate that employees are interested in doing a good job, in a manner similar to that which they would follow if they were working for themselves. Characteristics of a working organization such as those mentioned cannot be purchased directly. They do not spring into being because an executive issues orders. They are never developed in an effective way in any group where fear predominates and where there are double-dealing, treachery, deceit, disloyalty, and the desire to go through the necessary motions, to develop alibis, and to "get by" without being too conspicuous.

The development of morale calls for fundamental honesty, ordinary decency, and fair dealing by executives. Where the actual policies which affect the working personnel are based upon concrete applications of this fact, a training program may function in many important ways in contributing to the development of morale. Without a favorable attitude on the part of higher executives, however, the situation of the person responsible for the development of a worth-while training program is about as favorable as that of a baseball player who goes to the bat with two strikes called on him before the first ball is pitched.

THE ABILITY OF THE INSTRUCTOR TO INTERPRET AND EVALUATE EVIDENCE

The ability of the instructor to recognize and evaluate such evidence as may be available to him, and to discriminate between real evidence and pseudo evidence, is clearly one of the principal factors involved in the problem of checking up on a training program while it is in operation.

In considering this factor, it is apparent that there are at least two important points to be recognized, (1) the character of the evidence and (2) its real value. There are, moreover, two principal kinds of classes of evidence—statistical evidence and non-statistical evidence. Each of these kinds of evidence may involve significant values and each may call for the application of definite discounting factors under different types of working conditions.

Statistical evidence. The term "statistical evidence" connotes recorded data. For example, if the mistakes made in the performance of a particular type of work had been reduced from ten per cent to three per cent, the improvement would be significant if a training program specifically designed to bring about such a result had been set up and operated with that particular objective in mind. Credit for the improvement could be claimed for the training effort to the extent that all other factors relating to the work including the conditions under which it was performed had remained unchanged. Such a result would indicate at least a temporary improvement. Further improvement with appropriate means for holding on so as to prevent back sliding might legitimately be anticipated as a result of (1) more effective supervision and (2) the continued training of employees under supervision. Both these items suggest additional objectives of importance for an effective training program.

The reverse side of the picture may also be noted. If the same or similar objectives had been set up and no measurable improvement could be found subsequent to the operation of the training program, that fact would have significant value as indicating that the training was not functioning, at least in terms of the objective visualized at the start. Obviously, there are items in great variety in practically all working organizations where a training program might be set up, on which statistical data are regularly compiled or for which special statistical reports might be secured. Some of these data might, if utilized with intelligence and judgment, serve as at least a partial or auxiliary check on the effectiveness of the training. In a manufacturing plant, statistical data on damage to stock, production of scrap, tools lost, broken, or damaged, volume of second quality production, or the number of lost-time accidents might be of value. In practically every type of working organization, public or private, statistical data covering absenteeism, turnover, the use of supplies, requests for transfers, and other items of a somewhat general nature might have a value. Under certain conditions, data on the number of jobs completed or the amount of work done might be utilized to some degree in checking on the results of a training program. For all such items the data would have a value in connection with checking up, to the extent that training objectives had been set up which were designed to bring about improvement in each particular phase of the work on which statistical data are used for checking up, and also to the extent that a training program had been operated with these particular objectives in mind.

With respect to this whole subject of statistical data and their utilization for checking on the value or effectiveness of a training program, it should be realized that, after all,

the value of such data for the purposes mentioned is quite limited. One important reason for this is that such data, in most cases, come from *outside* the training group or groups. Because of this fact, they cannot be expected to reflect, except in a most indirect manner, anything of value concerning the interest which individuals have in doing a good job, their willingness to accept responsibility, their cooperation with others in the interest of the job as a whole, or any of the other morale factors. Furthermore, in many instances where statistical data can be obtained, they do not necessarily constitute reliable evidence concerning the effectiveness of a training program. As a rule, other factors than training have influenced the results or changes which can be measured statistically. Because of this, any attempt to claim too much credit for the training program may produce negative results. In general, it is probably true that a very effective means of discrediting any proposition is to overstate it. By the same token, an effective means of discounting the value of a training program is to claim too much for it.

Non-statistical evidence. Evidence of a non-statistical nature which may serve a useful purpose in checking the effectiveness of a training program while it is in operation is associated principally with the human-factor aspects of a working organization. Such evidence, therefore, relates principally to the mental attitudes of individuals and possibly of groups. In addition, applications by individuals of new ideas to their work and improvement in performance, on the job, suggest types of evidence which, even though they deal with matters of a somewhat intangible nature, may have considerable significance provided they are properly interpreted and evaluated. It is probable that evidence of interest is one of the most reliable types of non-statistical

evidence that can be utilized for checking. Also, this is one of the kinds that is most likely to be secured.

Interest, as it relates to this discussion, may be regarded as an attitude of mind. A person enrolled in a training program is *interested* when he *wants* to learn. In a somewhat restricted sense, interest is that mental attitude which causes a person to want to do a good job.

All normal persons in an organization may be expected to give some *attention* to certain phases of a training program operating within the organization. However, *attention*, as such, may continue only for a very short time, and this brief period of mental excitement should not be confused with *interest*. Interest is sometimes regarded as sustained attention. One of its characteristics is that it lasts or continues over a considerable period of time.

The mental attitude of being interested is probably the most important prerequisite for learning. Without it, results of consequence cannot be expected from any program of education and training even though those responsible for setting it up and operating it may believe that a good job is being done.

Because of the fundamental importance of interest relative to the outcomes of training activities, some practical suggestions relating to the recognition and evaluation of evidence of interest are discussed in some detail in the following paragraphs.

Evidence of interest. Among the more significant items which may be observed as indicators of interest are regularity or continuity of attendance at classes, conferences, or group meetings; participation in class or group discussions; willingness to do outside work; inquiries concerning books and pamphlets for supplementary reading and study; the keeping of notes and memoranda relating to the work done; and attempts to apply new ideas on the job.

Where training is carried on by group or class meetings or conferences, regularity of attendance may be regarded as an important indicator of interest. However, the working conditions should be given due weight in evaluating regularity of attendance as real evidence of interest. If the training is conducted with an employed group on working time and the members of the group report for training as an assigned duty, the attendance record may have little or no significance. By way of contrast, regular attendance by the members of a voluntary, self-selected group, meeting together on their own time, would probably have a great deal of significance. It may fairly be assumed that mature men will not continue to follow through with any training course on their own time unless they are really interested in the work. Under combination plans, where the training is given partly on working time and partly on the man's time, regularity of attendance as indicative of real interest must be considered in connection with other types of evidence of interest in order to avoid drawing unjustifiable conclusions.

Participation in class or group discussions has some value as an indicator of interest, provided it is evaluated with regard to the type of organization and the working conditions. Where the conference procedure is employed, the opportunity for participation is at its maximum. Conversely, where the lecture method is used there is no opportunity whatever for participation.

Even in group meetings or conferences, the degree of participation in discussions may have limited significance. Experience has shown that persons who participate in the discussions very little or not at all, especially at the beginning, are often really interested. It often happens that such persons get more of real value out of the work than some of the more articulate members. Glibness is not always associated with capacity for thinking, and very often group

162 CHECKING OUTCOMES OF TRAINING PROGRAM

members who are slow in participating in discussions are merely waiting until they have something worth while to say.

With small groups or with individuals being trained on the job, this type of evidence does not figure at all because of the close association of instructor and learner under practical working conditions.

Willingness to do outside work may, in certain situations, be an excellent indicator of interest. When a member of a training group attempts, on his leisure time, to analyze and chart his duties and responsibilities, when he draws up tables or graphs to portray important matters relative to some particular aspects of the work in which he is engaged, or when he does some real thinking about his job and develops some good ideas—these things are reliable indicators of real interest.

The keeping of notes and memoranda in excess of what may have been suggested or requested by the instructor and inquiries about books and pamphlets for supplemental reading and study are some of the most reliable indicators of interest. This is especially true where these things call for an appreciable expenditure of time outside of working hours. Adults will not do these things unless they are really interested in the units of instruction to which such outside work relates.

When a man's thinking concerning his job and the duties and responsibilities that are associated with it has been aroused to the extent that he will swap ideas and continue the serious discussion of problems and cases with his associates outside of conferences, classes, or group meetings, the situation clearly indicates that the man is interested. Evidence that this condition prevails is valuable to the person in charge of the training program. It indicates that the training is functioning. This kind of evidence is particularly

valuable when it is found in connection with training programs for persons who are expected to exercise judgment in the performance of their work. It would be less significant with individuals whose work was standardized, or of a more or less routine nature.

Evidence of interest may be misleading. While evidence of interest such as has been discussed in the preceding paragraphs may serve as a valuable means of checking up on the degree to which a training program is functioning, the fact should be recognized that even the greatest evidence of interest may be misleading unless it is interpreted with reference to the training objective. Suppose, for example, that the general objective of an in-service police training program is to bring about improvement in the performance of the routine duties of police officers. Suppose further that, as a recognized part of the program, a lecture is delivered to the assembled officers on "Professionalizing the Police Service." A high degree of interest is manifested but, so far as making progress toward the training objective is concerned, the interest in the lecture would have no significance. Evidence of interest has value and significance as a check on the degree to which a training program is functioning to the extent that it is secured in connection with the operating phases of an improvement program which has been designed to function in terms of predetermined objectives, which, in turn, have been formulated in accordance with the procedures discussed in previous chapters.

Evidence of improvement. Because of the fact that improvement in the performance of work is the ultimate objective of efforts to provide in-service training, any evidence that improvement has been or is being realized is the best and most reliable that can be obtained for the purpose of checking up on the effectiveness of a training program. Evi-

dence of improvement may be statistical, or non-statistical. Statistical evidence, when it is obtained, often deals with the larger or more general aspects of the work of an organization, rather than with the smaller details concerning man-to-man relationships on the job. The sum total of the latter, however, figures in an important way in affecting the general showing made over a period of time as reflected by the statistics. For example, a large coal-mining company compiled statistical data which showed among other things that the number of fatal accidents per year among their employees had steadily decreased from fifteen to three; also that the number of tons of coal mined per fatal accident had increased from 200,000 to nearly 700,000, and that the compensation cost per ton of coal mined had decreased from approximately three cents to slightly more than one cent. These data, covering a five-year period, during which time a training program had been in operation, were interpreted by the management as evidence favorable to the training program. However, such statistics do not directly reveal very much regarding the innumerable small incidents which occurred on the job and made the improved showing possible. Moreover, too great an attempt to gather comprehensive data regarding details might easily have had unfortunate results. Men do not become enthusiastic over a plan of reporting small incidents and happenings regarding the details of their work when they are called upon to report on themselves. They become still less enthusiastic if someone checks their actions too closely for the purpose of noting all the ways in which they demonstrate improved practices on the job. Perhaps the principal reason that it is inadvisable to attempt to gather too much detailed data to show evidence of improvement is that attitudes, which can only be guessed at by observers and checkers, are likely to suffer because of

too much checking up. This may nullify, to some degree, the results of an otherwise good training program.

Because of these considerations, detailed evidence of improvement is seldom obtained in any comprehensive way. Such evidence usually consists of individual examples of something creditable or worthy of favorable comment that has occurred, which may be attributed to the training program. In most cases such evidence turns up unexpectedly from places or departments where persons who have been trained perform their work. It often happens that evidence of this kind refers to improved attitudes and other morale factors where it is so difficult to secure worth-while evidence by direct methods.

GENERAL SUMMARY ON CHECKING UP

With reference to this whole question of interpreting and evaluating evidence of improvement, it should be noted that, under practical conditions, most of the best non-statistical evidence will probably be found on what amounts to a sampling basis. Such evidence is valuable, but the dangers of generalizing on the basis of limited or incomplete data should be fully appreciated. After all, evidence of improvement based upon samples merely shows that a few individuals have made definite application of their training; and, as previously stated, an attempt to get data which would be sufficiently complete to justify their use in drawing general conclusions involves many danger points and disadvantages.

At best, it appears that no very definite check can be made on the intangible values derived from a training program. As has already been indicated, many of the most important and valuable outcomes of a training program are intangible and therefore difficult to measure. Mental atti-

tudes, such as interest on the job, pride in the organization with which one is connected, willingness to shoulder responsibility, loyalty to superiors, and desire to cooperate are all in this category. Especially for the non-mechanical or supervisory phases of the work of an organization, evidence of the application of new ideas and the adoption of improved practices on the job is not likely to be obtained to any extent by direct methods and, in general, a considerable period of application is required before very much evidence appears.

Finally, the degree to which the person who has the responsibility for operating a training program will correctly evaluate and interpret evidence will depend upon (1) the degree to which he has thought the problem through sufficiently to deal with it in an intelligent manner, (2) the degree of common sense with which he is endowed, and (3) his experience in dealing with problems of in-service training. The justification of this chapter is that it represents an attempt to direct the attention of the person who has this responsibility to some of the principal items which he would do well to consider carefully before attempting to design a system for checking up on a training program to be applied while the program is in operation.

While the problem of checking the effectiveness of a training program while it is in operation is somewhat different from that of appraising the outcomes of specific units of training after they have been completed, there are certain factors which are common to both. However, the relative importance and significance of some of these factors will vary considerably with respect to the two problems.

In both instances, both objective and subjective evidence may assume varying degrees of importance. For example,

evidence of interest in a particular phase of a going program might be of considerable significance while the program was in operation but of limited value in appraising the end value of that portion of the program at a later period. The fact that active interest had died down and the probability that enthusiasm would have wilted to some extent would make evidence of interest at the time the program was in operation of little value in appraising the final outcome. Conversely, specific improvement in the performance of work might be difficult to discover while the program was in operation but later on, perhaps several weeks or months after the completion of a unit of training, definite improvement would be recognized by competent observers. This lag in the appearance of definite evidence of improvement is not at all uncommon. It is probably due to the fact that improvement in the performance of work, especially on the supervisory level, may be expected to the extent that the person or persons concerned have actually *grown* on the job and arrived at a point where they have found it possible and desirable to improve their techniques.

While a sensible and practical check-up has a legitimate place in connection with the operating stage of a training program, a real appraisal of the final outcomes should be deferred at least until the program has progressed through the application stage and into the holding-on stage as discussed in the chapters which follow.

ABSTRACT

In this chapter, the point is emphasized that the practical application of training, on the job, is an essential phase of any efficient training program. The tendency toward inadequate training in application is discussed and it is pointed out that while, in most organizations, a select few will make their own applications of training, the majority of employees usually need some encouragement to do so.

Some of the more important interest factors and incentives which affect the application of training are mentioned. These are discussed from the standpoint of certain advantages and disadvantages associated with their utilization.

The first-line supervisor (the person in immediate charge of work operations) is regarded as the "key" man so far as training in application is concerned.

CHAPTER VI

The Application or Training Stage

PRECEDING CHAPTERS have dealt with problems associated with the planning, organization, and operation of training programs. However, the discussion of the operating stage has thus far been developed only up to the point where the instruction has been "put over" with some degree of effectiveness and checked up during the operating phase. But little reference has been made to the important fact that an essential phase of the whole training program is that in which the training received is actually applied on the job. This phase of the training procedure corresponds in a way to steps 3 and 4 of the formal lesson—application and check-up.

EFFICIENT INSTRUCTION INCLUDES SOME APPLICATION

Good instruction in small units or lessons requires that the learner or student should attempt to apply his new ideas or skills in some practical way. It is not enough for the instructor to have presented the lesson; the learner must apply what he has learned. During this phase of instruction, the teacher or instructor "stands by" ready to help out if necessary. The competent instructor who understands and utilizes good teaching technique is always careful to "patch up" his instruction as may be necessary under the circumstances, to the end that the new knowledge or new skill, which he

has tried to make easier for the learner to grasp or to develop, may be applied in practice in an approved manner and according to whatever standards may be regarded as important.

WHAT IS THE APPLICATION STAGE?

The application stage is really the training phase of the program. It is that stage in the whole operation of the program in which the degree of efficiency realized is favorably influenced by actual application of the instruction given. The training procedure as a whole may be regarded as having a number of successive phases. Subsequent to the preliminary stages of planning and organization, these include instruction (putting over), application (or training), and enforcement (or holding on).

So far as definite improvement in the performance of work is concerned, instruction, as such, may amount to very little. After the putting-over stage, it is always necessary for the improved practices which have been taught to be applied. Application of the instruction, which is usually accomplished through repetitive practice on the job, is something for which the supervisor in charge of the work is responsible. Furthermore, application when realized must, in some way, be followed up in appropriate ways in order that whatever gains have been made may be held.

TENDENCY TOWARD INADEQUATE APPLICATION

In connection with any training program, the danger that a considerable portion of the training given will not be applied on the job for all that it is worth is always present. The situation is somewhat similar to that which has come within the observation of practically everybody. A machine

of any kind, once started, tends to slow down and eventually to stop unless some actuating or motivating force is applied, either constantly or at suitable intervals, to keep it in motion. Friction in the bearings, the resistance of the air, water, or other medium in which it operates, all tend to prevent it from running for any great length of time after the motivating force has ceased to act.

With an educational or training program, a number of forces, in a similar manner, may act either singly or concurrently to slow down or stop its efficient functioning. In other words, there are specific factors which tend to retard the progress and the continuous and effective operation of a training program. Among these factors are: loss of interest on the part of those in training, lack of understanding or appreciation of the training program by higher officials and executives, poor follow-up of training by supervisors, and inefficient personnel management resulting in poor morale in the organization. Just as an oil can is useful in reducing friction, preventing squeaks, and in other ways keeping the moving parts of a machine running smoothly, a training officer may, in fact, function as an "oil can" relative to the training program.

A FEW MAY BE EXPECTED TO APPLY THEIR TRAINING

In most organizations there will be found a few employees who will apply their training to their work, whether any external incentives are supplied or not. Such persons improve their work because it gives them greater satisfaction to do a good job than to do a poor one. In many cases they are more severely critical of their own performance than is their supervisor. Self-respect, job pride, a desire to excel, and other powerful interest factors are effective with this select few, even though the higher executives do nothing

to encourage improvement. Even in extreme situations where their immediate superiors not only do nothing at all to encourage them, but also exert a negative influence, the application of the training received takes care of itself with such persons.

MANY NEED ENCOURAGEMENT TO APPLY TRAINING

The great majority of employees in most organizations need a certain amount of encouragement to apply their training to their daily work. While it is doubtless true that the normal person would rather do a good job than a poor one, the fact remains that the majority of people will do their best only when appropriate external incentives are supplied. With them, the application of training is not likely to get very far unless such incentives are supplied. Some of the more important external incentives that may serve this purpose are recognition, competition, personal advantage gained through promotion in rank or salary, and increased responsibility. Such incentives as these, if supplied at all, must be applied by the supervisor or through him by someone higher up in the organization.

BASIC FACTORS UPON WHICH GOOD APPLICATION DEPENDS

A training program may be expected to be carried through the application stage in proportion as:

1. The training needs have been adequately analyzed or "sized up" to start with.
2. Practical and attainable training objectives have been well set up, to meet known needs.
3. The program has been operated with regard to, and in accordance with, the essential characteristics of efficient training, and

4. The training program has been checked during the operating stage to determine as nearly as may be the efficiency of its operation.

These four steps have been discussed in considerable detail in previous chapters. Consequently, at this point it is merely desired to emphasize the fact that any application of the training, on the job, may be expected only to the extent that the necessary conditions for effectiveness have been met in carrying the program through the previous stages. The satisfactory accomplishment of these stages may therefore be regarded as the foundation upon which to base further progress.

SPECIFIC FACTORS AFFECTING APPLICATION

As indicated in previous paragraphs, adequate and appropriate incentives must be supplied if the results of training are to function on a continuing basis, in any important way. In the application stage the supervisor in immediate charge of the work is undoubtedly the "key" man. What he does to encourage the individuals whom he supervises to put into practice the instruction which they have been given will determine very largely the degree to which the training program will be effective. Some of the more important specific factors which may well be recognized in this connection as external incentives have already been listed. They are of sufficient importance, however, to justify more detailed consideration.

RECOGNITION

Recognition is a powerful interest factor. This is another way of saying that it is perfectly normal for one to like to be noticed as a person. If he is entirely submerged in a

large organization and his work is part of a great routine operation, the effect is likely to be more or less deadening, as far as real interest is concerned. He tends to function as a cog in the machine and merely to go through prescribed motions. This tendency usually has a pronounced effect upon his whole mental attitude. To enroll such a person in a training program is supposed to stir up his thinking, extend his mental horizon, stimulate a desire to keep on growing, enlarge his knowledge and skill, and increase his interest in his job. If we assume now that the training program is so conducted that some of these effects begin to be realized, the degree to which they will be carried over and integrated into the everyday performance of his work will depend to a very great extent upon the treatment accorded to him by his official superiors. In this respect, the influence of his immediate superior, in his everyday working relationships, takes first place. A little well-deserved commendation, when a man has put forth unusual effort, produced an excellent job, or performed specially meritorious service, may make all the difference in the world in his attitude toward his job, and his interest in continuing to apply his training to his work. Even the manner of the superior and the way in which he speaks, or the expression on his face, may have a profound effect in encouraging or discouraging the interest of a subordinate.

SUPERVISORS OFTEN FAIL TO NOTICE A GOOD JOB

It is all too common for persons in administrative or supervisory positions to take no notice whatever when work is satisfactorily done. Unusual effort and excellent performance all too often go by unnoticed, as a matter of course. Sometimes this policy is carried on to such an extreme that

the supervisor never mentions the character of the work done unless something goes wrong. Then the worker receives plenty of criticism, and cases are not unknown where the fault finding is carried far beyond the point justified by the conditions. Executives and supervisors who follow such procedures often depend chiefly or wholly upon fear to stimulate interest and get work done. Just as the unnecessary and often unjustifiable use of profanity indicates an inadequate vocabulary, so the use of fear to retain supervisory control of workers may indicate poverty of resources in exercising the supervisory function.

USE OF RECOGNITION AS AN INTEREST FACTOR

Ability to utilize recognition as an interest factor with subordinates implies good judgment and tact in dealing with people. Perhaps one reason why many executives and supervisors utilize it to such a small extent is that there are obvious dangers associated with its use. The amount of recognition that an individual may be accorded without spoiling him is a matter to be determined by the supervisor. Such determination requires a definite degree of insight and an understanding of the practical psychology of dealing with people. Even though the utilization of this incentive does involve definite dangers and the supervisor who makes use of it necessarily takes certain risks, it is worth trying. The intelligent supervisor would prefer to get a few negative results occasionally than to avoid its use entirely. It is unfortunate when, after a good "build-up" has been accomplished in connection with training, the entire absence of any recognition of effort or of excellence in the performance of work discourages the persons trained from taking a real interest in putting into permanent practice, on the job, the temporary outcomes of their training.

COMPETITION

Competition between individuals or groups may be employed in a wide variety of situations to encourage application of training. The desire to excel or to "win out" as a person is perfectly normal. It is also natural for a person to want to be on the winning side. The incentives which are associated with this factor, therefore, may be utilized with individuals and with groups.

From one standpoint, the desire to win out or to be on the winning side may be looked upon as involving incentives of a lower order of merit than those associated with other factors, such as job pride, self-respect, and a desire to attain a high standard for its own sake. However, competition with others offers a strong motivating force for certain types of persons which may well be utilized in connection with carrying the outcomes of training over to actual job performance.

UTILIZATION OF COMPETITION INVOLVES DANGERS

The utilization of competition incentives to encourage the application of training, involves definite dangers and disadvantages. Three of the more important of these are: (1) the danger of utilizing unfair methods to win, (2) the danger of confusing the means used with the end to be achieved, and (3) the fact that, when anybody wins, someone must lose. These points are now discussed in some detail.

Danger of adopting unfair practices. While fair play or good sportsmanship is a general characteristic of the American people, keen competition always tends to encourage competitors to adopt unfair practices. An illustration of this, which is characteristic of many that might be cited

in the field of training, is found in connection with an effort by an industrial organization to secure effective application of the results of an educational program to reduce accidents and encourage safe working practices. With this purpose in mind, statistical data were compiled and the figures were posted in a conspicuous place each week. The department having the best record was awarded a banner or pennant which was proudly displayed by the winner. The pennant would have to be surrendered and awarded to some other department provided a record subsequently made by some other department was better than that of the original winner. In this organization, the rules and regulations required that *all* accidents, no matter how trivial and unimportant they might seem to be, must be reported to the plant hospital. After a few weeks of this competition, it was discovered that, in order to win, employees were not reporting all minor cuts and abrasions—they did not want to contribute to the loss of the record by their department. Obviously, this attempt to obtain application of the training in safety and accident prevention was a total loss, and the effort was soon abandoned.

Danger of confusing means used with end to be achieved. As the end to be achieved in the application stage of training is actual improvement in the performance of work, every means used to accomplish that objective should contribute definitely to its attainment. When competition is utilized to provide incentives for this improvement, there is always the danger that the competition itself will become the focusing point of interest. When this happens, the principal objective which, obviously, justifies the competition may become more or less obscured. Such a situation may develop with individual competition, and also where group competition prevails. In this way, non-essentials may be mag-

nified out of all proportion to their importance. For example, a poorly designed system of rating, marking, or grading of individuals, which is intended to encourage employees to improve their performance on the job, may create a situation where the attainment of high ratings will become the chief point of interest with persons who, at the same time, may do everything possible to slight their work and attempt to shove their job responsibilities off onto someone else.

The case previously cited to illustrate the unfortunate results of group competition in a safety campaign also indicates how the means used to accomplish a perfectly worthy purpose may become hopelessly confused with the end to be achieved. However, when group competition is utilized to encourage application of the results of training, items of operation which can be slighted temporarily in order to make a big showing may be given only casual attention or ignored entirely, even though such negligence may be exceedingly expensive in the long run.

When anybody wins somebody loses. The fact that, when anyone *wins* in competition with others, one or more people must necessarily *lose* is worthy of careful consideration by training officers or others who may be responsible for providing incentives to encourage the application of the results of training in the everyday performance of work. While interest in competitive activities is usually high *while the race is on*, there almost always is a pronounced drop in interest just as soon as the winner is announced. Because of this, the stimulating effect of competition is more than likely to be temporary rather than continuing. At the close of the competition there is almost sure to be a *slump*. During this "let-down" period, the level of efficiency in the performance of work may drop considerably below where it was before the competition was started. In addition to this,

many of the losers may become more or less discouraged, to the extent that they may lose interest in attempting to improve their job performance by applying the results of the training given. In addition to the possible bad effects upon the losers, the winners are not always permanently benefited. An exaggerated degree of self-importance, which may develop into a plain case of "swelled head" is always a possibility. Also, the winner is likely to be the butt of disapproval of the losers, so that he may become most unhappy and his ability to work satisfactorily thereafter with the group with which he is associated may be endangered.

CAUTION DESIRABLE IN USING COMPETITION AS AN INCENTIVE

From this discussion, it will be realized that competition, as an incentive to encourage individuals to apply, in their work, the results of the training received by them, is a device to be used with great caution. In practically all organizations which employ a considerable number of people, there is always a certain amount of competition between individuals and groups anyway, even though nothing is done to encourage it. Because of this fact, it is often the best procedure to endeavor to find other and different incentives to stimulate interest in applying the results of training to the work to be done. Where competition is utilized it is obvious from this discussion that a few highly important conditions should be satisfied. Some of the more important of these are: (1) the rules governing the competition should be as simple as possible and should be clearly understood by all interested parties; (2) the data or evidence to be used in deciding who wins should be entirely objective; and (3) every possible precaution should be taken to prevent the use of unfair or unethical methods. However, even though

these conditions were satisfied, there would still remain certain outstanding disadvantages. Therefore, before deciding to utilize the incentive of competition, it should be clearly apparent that the anticipated advantages will be quite certain to outweigh the disadvantages.

PERSONAL ADVANTAGE

It is but natural that a person who has either completed or made notable headway in a training program and also attempted sincerely to apply the results of training to his regular work should expect to obtain some economic advantage at some time or other. Such a person would normally look forward to a promotion in rank or an increase in salary, provided opportunities were open in higher classifications.

DANGER IN OVERSTIMULATING AMBITION

In this connection, it may fairly be stated that, while it is entirely appropriate and correct to recognize effort and give credit, on the record, for the satisfactory completion of units of training, the direct utilization of ambition to stimulate interest in applying the results of training involves definite dangers. It often happens that those who are best qualified for promotion are so busy doing their work in a first-class manner that they give little thought to promotion and salary increases. Moreover, it is often the person of indifferent ability and accomplishment who spends a lot of time in figuring out how he can advance himself. Because of this, there is no small amount of danger involved in making too strong an appeal to the more or less latent ambition for advancement which practically everybody has. To "play up" this interest factor too strongly may easily result in spreading dissatisfaction within an organization.

SUGGESTIONS CONCERNING PERSONAL ADVANTAGE

In all probability, one of the best ways of utilizing this factor is to let the interested persons form their own opinions and decide on their own responsibility to what extent promotion and increases in salary may result from doing good work. If the organization really practices a sound personnel policy and, as one phase of it, everybody knows that real merit *will* be recognized when promotions and increases in salary are possible, no dangers or negative results are likely. However, where poor personnel policies are practiced so that the entire working force can see "Treachery and Deceit enthroned, while Truth and Merit mount the gallows" nothing but trouble, ruinous to morale, can be expected. It is well to keep in mind that the worker, after all, has sufficient intelligence to be able to observe when unjust practices are habitual rather than occasional, and some time or other will react in the usual human way—displaying indifference, inertia, and even disloyalty.

RESPONSIBILITY

The placing of increased responsibility upon certain types of persons may have a very salutary effect. Because of this, it is often possible for a supervisor to utilize this means of obtaining application, on the job, of such additional knowledge and skill as members of his working group may have acquired through participation in a training program.

FEW POTENTIAL DANGERS

The placing of responsibility is a comparatively safe way of encouraging application, in that it does not involve potential dangers comparable with those previously pointed

out relative to certain other interest factors. Probably the most important point for a supervisor to consider in utilizing this incentive is involved in the "sizing up" of individuals.

JUDGMENT REQUIRED

The placing of added responsibility upon individuals to encourage them to apply what they have learned or acquired should be carried out with judgment and discretion. If carried too far, it may tend to discourage them and to make them feel that too heavy a load is being placed upon their shoulders. If carried not far enough, it may tend to encourage contemptuous attitudes toward the training program itself. Persons may get the idea that training is of itself just a perfunctory thing and that, after all, one continues to go ahead with the same old routine, day after day.

In spite of these possible disadvantages, added responsibility is a valuable and constructive interest factor. Combined with a discreet use of recognition and other desirable factors and a large proportion of "uncommon" sense, it may be utilized very constructively to provide incentives which will help to carry the training program through the application stage.

HOW CAN THE APPLICATION STAGE BE CARRIED OUT?

At the present stage of the development of training methods, it seems that the supervisor's work is the principal means by which the application or training phase of the program may be realized on the job. The fact that a comparatively few of the highest types of employees will probably make their own applications of new ideas and improved practices without any external stimuli may be regarded as an exception which proves the rule. And there is no telling

when they may feel that it is "love's labor lost" and decide that it is much better to be one of the herd, as it were.

Perhaps the most effective method for assisting supervisors to meet their responsibilities in this field is to make provision for supervisors' conferences at regular intervals. At these conferences, supervisors may exchange ideas, pool experiences, and in other ways endeavor to think out rational and worth-while answers to the many problems with which they are confronted. Such a program of conferences would, of itself, be an integral part of the whole training program. It might well be regarded as an important and necessary supporting service, essential to the satisfactory performance of work on the supervisory level.

While general principles are of themselves important, it is principally through the analysis and study of cases and specific examples that the thinking of a group of supervisors will be advanced relative to performing their duties and meeting their responsibilities for developing the values to be derived from a training program. Having thought their way through a number of problems, they will be better equipped to deal with the practical phases of similar problems when they return to their departments. To many of the problems of supervision, there are no ready-made answers which are exactly correct while all other answers are wrong. In other words, in supervisors' conferences there will be differences of opinion and legitimate disagreements. What to do in any specific case will call for the exercise of judgment by the individual supervisor. Experience has amply demonstrated that a conference program with competent leadership is one of the best means thus far discovered of giving occupationally competent men who have supervisory responsibilities the training they need in order to exercise good judgment in meeting their responsibilities.

GOOD APPLICATION DEPENDS UPON THE SUPERVISOR

In summing up, it may be stated that, to the extent to which the application stage of training is put over at all, it will be done through the well-directed efforts of the supervisory force. Even though an organization has an efficient personnel director with adequate machinery for dealing with most phases of the personnel problem, the supervisor or foreman in immediate charge of a working group is the personnel man *de facto*. With respect to the application phase of training, it will be because of his efficiency as a supervisor that the potential values of training will be translated into practice sufficiently to bring about improvement in the actual performance of work. No one else is in as favorable a position as he, relative to the working force, to accomplish this purpose. To the extent that he is able to put the job over in good shape, the members of the training group under him will be happier in their work, better satisfied with their jobs, and more ambitious to excel. When the supervisor obtains results such as these, he is himself happier on his own job, and must necessarily function more efficiently as a member of the organization with which he is connected.

In organizations which are large enough to justify the employment of a training officer, one of the functions which should be performed by him might well be that of serving as the conference leader with supervisory groups. This function, efficiently and skillfully performed in conjunction with his service as an "oil can," as previously mentioned in this chapter, might well be regarded as one of his major responsibilities.

With supervisory groups, good application of the train-

ing given is much more probable if the program is directed toward *thinking ability* rather than *informational* objectives. This point is well illustrated as follows:

Two industrial organizations were engaged in the same general class of work. Both of them were under the same general management. In the first plant, following an *informational* course in foremanship seventy-five grievance cases developed, all of which reached the general foreman. Twenty of these cases were sufficiently serious to call for outside help to bring about satisfactory adjustments. This organization employed between 5,000 and 6,000 men.

In the second instance, following a *conference program* directed toward the development of thinking ability, one hundred and fifty grievance cases developed. Of these, only ten reached the general foreman and only one became a serious case. This second organization employed at the time approximately 20,000 men. The same period of time was involved in each case.

The latter case indicates that the participants in the foreman and supervisory conference program had carried their training into the application stage. Such an outcome is obviously significant with respect to the training of foremen. In addition to this, however, every foreman and supervisor needs assistance in thinking his way through the problems that confront him which have to do with carrying the training of his *subordinates* through the application stage. The successful accomplishment of this requires no small degree of thinking ability, consequently a conference program for supervisors involving continued attention to problem solving is, in all probability, one of the most promising means of securing the effective application of training.

ABSTRACT

In this chapter, the importance of finding and using practical ways and means of making the constructive outcomes of a training program as permanent as possible is discussed.

The integration of training is described as a process whereby all the values derived from the entire gamut of training activities are brought together and incorporated into everyday working practices.

The importance of sound policies of personnel management is emphasized from the standpoint of their effect upon certain inborn human tendencies and wishes by which all persons are influenced. The thought is expressed that the real value of the best training program that could be imagined would inevitably be heavily discounted if these things were ignored.

The importance of efficient supervision and its relationship to the integration of training is pointed out. Also the interest of executives and their attitudes toward the training program are referred to as essential factors for a successful outcome.

CHAPTER VII

The Holding-on or Maintenance Stage

AT MANY POINTS in this book, emphasis has been placed, over and over again, upon what appears to the author to be the most important objective of training for the employed personnel of any organization. This outstanding objective is *improvement in the performance of work*. In the broad sense in which this aim or purpose is intended to be interpreted, it includes every element that may contribute to greater efficiency on the job. It includes the possession and the understanding of information which has a functional value for the individual on his job, and the ability to use such information. It embraces the mastery of such technical knowledge as is required either for the intelligent performance of definite tasks or for the efficient discharge of specific responsibilities. It involves the development of whatever skill may be required for the execution of the work at hand. It also comprehends the ability to think clearly with respect to problems arising out of the job and its responsibilities, and to exercise sound judgment in making such decisions as are called for. Finally, it covers these mental attitudes and habits of thought which are implied under the general term "morale."

IMPORTANCE OF THE HOLDING-ON OR MAINTENANCE STAGE

In preceding chapters, some of the important considerations which should receive attention in the earlier stages

of development of a training program have been discussed with a fair degree of completeness. The analysis of the problem, the determination of needs for training, the setting up of objectives, the planning of the program and its operation, checking up the program while it is in operation, and the importance of the application or training phase have all received attention. It now remains to consider the problem of holding on to whatever improvements may have been realized. This holding-on or maintenance phase is important. If it is not handled with a reasonable degree of efficiency, the value of the entire training program may be heavily discounted.

WHAT IS THE HOLDING-ON OR MAINTENANCE STAGE?

The holding-on or maintenance stage in the conduct of the whole training program is that stage in which such gains as have been made in the previous stages are consolidated and maintained.

As a result of the instruction and training given in the preceding stages of the training program, the persons who have completed or "passed" those stages should be well equipped to perform their work in accordance with such standards as have been recognized. They will be so equipped if the preceding phases have been efficiently handled. The problem of holding on therefore becomes one of finding and using ways and means of making the outcomes of the training as permanent as possible. In other words, the beneficial and worth-while results of training should, to the greatest possible extent, be integrated into everyday practice and procedure on the job.

INTEGRATION OF TRAINING

Integration of training means the bringing together of all the different values which are or have been derived from training activities carried on with employed personnel and incorporating them into current working practices. It means capitalizing upon the values of the training by using such improvements as are made to advance the economic advantages of a business enterprise, or to increase the effectiveness and the operating efficiency of a public service or governmental agency. When this is done, the social and economic status of the personnel is definitely advanced. These two phases are interdependent, and neither can be obtained if the other is ignored.

IMPORTANCE OF MORALE

An appropriate sense of responsibility for the quality, quantity, and general integrity of the work performed, and a proper sense of pride in doing a good job, the ability to work harmoniously and cooperatively with associates, official superiors, and subordinates, a real interest and general pride in the work of the organization, and all the other elements that go to make up *esprit de corps*—these are some of the things that are involved in morale. These things are concomitants of job competency. In a real sense they can be developed along with efficiency in the performance of work—never independently and by themselves.

SOME CAUSES OF POOR INTEGRATION

Poor or ineffective integration of the potential values to be derived from a training program may be due to any one or more of several causes, such as:

1. The training program having been poorly planned with respect to some of the important points discussed in Chapter II.
2. The training having been inefficiently handled during the operating stage.
3. The training having been conducted under unfavorable working conditions which discounted the results that otherwise might have been realized.
4. No suitable means of checking having been used, with the result that no one was in a position to know whether or not the program was working with any degree of efficiency.
5. Because of poor or ineffective supervision, the training or application and the holding-on phases of the program not having been efficiently carried on.
6. Inadequacy of executive understanding, support, and backing for the training program.
7. Assuming that values temporarily realized would become permanent without further effort.
8. Interest in the several aspects of the training program having evaporated before the results became well established.
9. Having regarded the training program as a *thing by itself* rather than as an integral part of the regular operation of the organization, and having assumed that the training job could be done once and for all, and that, after its completion, everybody would go on with his regular work without any more interference.

TENDENCY OF PROGRAMS TO SLUMP

The importance of devising and using practical methods of securing continuity in the training program, to the point where the training in application and the holding-on stages

are being accomplished, is emphasized by a consideration of the definite tendency of training programs to slump. This tendency is particularly apparent when instructional groups or classes are organized and where no special effort has been made to assist the supervisors in immediate charge of the work (1) to recognize all their responsibilities for training and (2) to equip themselves to meet these responsibilities.

It is a comparatively simple matter to organize and operate a training program in some of its earlier stages. If suitable incentives to arouse interest are efficiently utilized, if the instructors or conference leaders are qualified, and if the units of training are well organized, the operating or putting-over stage is probably easier to handle than most or all the other several stages through which a successful training program is carried. However, the fact that instruction has been well put over is no assurance that new ideas and improved practices learned will be applied on the job with any definite degree of continuity. While the new ideas may be well received, and an inclination to apply them in practice may be developed by the instructor, their application to everyday work, on the job, may be delayed or entirely prevented unless training in application and appropriate means of holding on to the improved practices are well utilized. These phases must be taken care of by the supervisor in charge of the work.

SOME CAUSES OF BACKSLIDING

Force of habit is one of the prominent factors which cause backsliding. Another is pressure of work. Lack of appropriate and adequate incentives and inability of those in charge of the training to utilize incentives may also contribute to the general tendency to backslide. The ultimate

192 THE HOLDING-ON OR MAINTENANCE STAGE

effect of all these tendencies, if they are not counteracted, is a slump in the training program. It sometimes happens that individuals lack the ability to apply their training, but more often they are not sufficiently interested in doing so. For example, if a man feels that he has reached his limit so far as advancement is concerned, it may be actually impossible for him to develop any real interest in making use of what he is supposed to have learned through the training given. There may be some temporary improvement, but there is always the tendency to slump back into the old habits.

FOLLOW-UP NECESSARY FOR GENERAL IMPROVEMENT

Because of these and other conditions, it may be stated as a fact that organized training without effective follow-up, carried on for a limited period and then dropped, will yield results with a selected few only. To secure results of a permanent nature with all or most of the persons trained, a continuous program of training in application is necessary. Subsequent to this training or application stage, continuous follow-up is necessary in order to hold on to the improvements. In this way, the values of training may be capitalized upon to the greatest possible extent. In this connection it may be stated that failure in the holding-on stage will probably be due either to unsatisfactory personnel management, poor supervision, or inadequate executive backing, if it is assumed that the training given during the operating stage was efficiently organized and well handled.

IMPORTANCE OF SOUND POLICIES

The degree to which integration of results can be accomplished depends very largely upon the soundness of

the policies of the organization in which the training program is being carried on, and the ways in which these policies are carried out in practice. Integration of the outcomes of training is definitely a problem of management. Satisfactory integration is possible in the degree to which the policies and actions of management are carried out with a full realization of the fact that there are certain inborn tendencies to action which all normal human beings have, and which cannot safely be ignored. In other words, attempts to integrate the results of training and to capitalize upon these results are likely to succeed not only to the extent that human-factor-considerations are adequately recognized and understood, but also to the extent that their recognition is reflected in the policies and everyday work of the organization.

THE IMPORTANCE OF CERTAIN HUMAN TENDENCIES AND WISHES

The principal human traits or tendencies to action are clearly and constructively discussed by Tead, in his book *Human Nature and Management*,* and also in a number of other works on progressive personnel practices. Four of the principal and fundamental wishes or desires of normal human beings, which have been discussed by social science authorities, have been referred to as deep-seated and innate forces which actuate and motivate individuals whether they are aware of the fact or not.

SECURITY

The desire for security shows up in what people will do to achieve physical comfort and peace of mind. Physical

* *Human Nature and Management*, by Ordway Tead, McGraw-Hill Book Co., New York, 1929.

comfort is satisfied essentially by good food, suitable clothing, adequate shelter, and good health. The desire for peace of mind is satisfied by such things as adequate provision for old age, various forms of insurance, stability in employment, and savings to meet emergencies. Unless these deep-seated desires are satisfied to some extent, as a result of the effort which a man makes on his job, trouble is sure to develop, for the desire for these things cannot be eliminated.

Progressive and intelligently applied managerial policies will make it possible for a man to earn an adequate wage so that he can obtain creature comforts in proportion to reasonable standards. His earnings should be sufficient for him to make some savings for emergencies. To the extent to which he is thoroughly trained and therefore competent and reliable on his job, his earnings are likely to be adequate. His employment should be reasonably secure, so long as he behaves himself. Here, again, job competency is a factor which has an important bearing upon the stability of his employment. Given these things, whatever improvement is realized through training, resulting in increased knowledge and skill, can be capitalized upon for the mutual benefit of employer and employee. Without them, money, time, and effort, and the best-conceived training program that can be imagined, will yield but little of value.

SELF-EXPRESSION

The desire for self-expression is another of the basic human wishes which cannot be eliminated by ignoring its existence. In some way or other the normal man will satisfy this desire. It is closely associated with what has been called, by different writers, "the tendency to build or make things, or to do creative or constructive work of some kind."

It shows up in the desire to acquire ownership of things. It is satisfied either through one's regular work, or, if that is denied, through hobbies of some sort. Gardening, building boats, collecting stamps, writing books, and many forms of art and handicraft work, all tend to satisfy this deep-seated human desire. To the extent that training and the increased knowledge and skill resulting therefrom can be handled so as to satisfy, in part, this desire in connection with a person's job, the results of a training program can be integrated and capitalized.

Curiosity, which, if constructively applied, expresses itself in a desire to understand or to comprehend the *why* of things, is closely associated with the incentives which are related to self-expression. It supplies energy for creative projects. It is often stultified by educational and school experience; but, even so, it still exists as one of the mainsprings which will affect behavior.

RECOGNITION

Desire for recognition is one of the prominent characteristics of every normal human being. It shows up in many specific ways, such as the desire to be noticed and the desire to be regarded as an individual. It is to some degree satisfied where one has a job in which he is noticed as an individual. It is very apparent in sports and contests, where, doubtless, the urge which causes a participant to do his best is an unexpressed desire to get some recognition and to have others notice that he excels in at least one phase of his life. When misdirected, this desire for social response or recognition may produce a "Public Enemy Number One."

The treatment of employees as intelligent human beings rather than as impersonal units of labor tends to satisfy

this desire for recognition. Progressive management has discovered this fact, and is more and more inclined to recognize the things that are associated with employees' inborn tendencies to force situations where they will be recognized as important factors in the world's work. To the extent that managerial policies are shaped so that, in matters associated with training, workers are dealt with in ways which satisfy their urge for a constructive outlet for their desire for recognition, the results of training can be integrated for the benefit of the organization and its working personnel. Loud-mouthed and unscrupulous agitators arise out of situations where groups of workers are held down, oppressed, and deprived of all reasonable opportunities to satisfy their normal desire for recognition as individuals. Management will do the intelligent thing in handling the human problems associated with employment when it recognizes greater mutuality of interest on the part of both employer and worker. Where there has been adequate recognition of this factor, labor difficulties have been at a minimum. The sore spots are those where working conditions have been at their worst, and where employers have gone blindly ahead without appreciation of the fact that their employees were also actuated by the same human desires which they, themselves, possess, and that they also were susceptible to all the interest factors which affect men's attitudes and motivate their actions.

NEW EXPERIENCES

The desire for new experiences is another of the fundamental wants of the normal human being. If this desire cannot be satisfied either in the employment situation or outside of it, the individual will possibly change jobs or change employers. This will be especially true if he has

no avocational outlet for the gratification of this desire. For those who can afford it, this desire can be satisfied through travel and new forms of recreation. For employed workers, changes in duties to relieve monotony and keep interest alive often have a stimulating and satisfying effect upon certain types of persons. If management will shape its policies in such a way as to afford some outlet or means of satisfying this desire, it will certainly be much easier to integrate the values resulting from a training program.

IMPORTANCE OF THE HUMAN FACTOR

This discussion of fundamental desires is intended to bring out the fact that the degree to which the potential values to be derived from training can be integrated and capitalized upon for the benefit of the organization which maintains a training program will depend very largely upon the way in which management deals with the human-factor problems. If managerial policies and actions are based upon a full recognition of the inborn tendencies to action and desires of human beings, the results of training will have a chance to be integrated. In the absence of such recognition, the best training program that can be conceived and operated is bound to be heavily discounted, so far as real values are concerned. Improvement in morale and real cooperation in an organization, therefore, are logical outcomes of a training program which has helped every man to become more competent on his job.

HOW CAN THE HOLDING-ON STAGE BE HANDLED?

In the preceding chapter, considerable importance was attached to the various interest factors that may be utilized in devising and applying different types of incentives. From that discussion it should be clearly apparent that the

internal incentives—those which prevail within oneself—are generally of the more desirable and valuable kind. External incentives—those provided or made effective by management—in most cases involve the exercise of authority. Both types have a place in the application or training stage. Both of them also may figure in the holding-on or maintenance stage, as many individuals may tend to utilize the results of their training to a lesser degree than might be hoped for.

In the holding-on stage, incentives of a continuing nature are needed. Awareness of the *possibility* of promotion because of meritorious service is one incentive of great potency. However, it involves dangers that are quickly recognized by experienced executives and supervisors. These dangers are increased in proportion as too much is said about promotions. As an incentive to encourage the maintenance of high standards, this one is probably at its best when the organization concerned actually follows the policy of promoting from within the organization and everybody knows that it is the policy of the organization to do so.

A policy of granting increases in salaries or wages in recognition of superior performance supplies incentives to maintain high standards of accomplishment. The payment of a bonus at intervals to deserving employees is another service which has a possible value in managing the holding-on or maintenance-stage. Under certain conditions a profit-sharing plan may provide similar results.

IMPORTANCE OF EFFICIENT SUPERVISION

In the final analysis, good supervision is probably one of the best external incentives that can be utilized for holding on to whatever improvement may be secured

through instruction and training. To the extent that the policies of the organization in which the supervisor works are sufficiently favorable to make it possible for him to do an effective job, the values derived from the training program can be integrated into the everyday working practices. Some of the more important conditions which must be satisfied in order that the supervisor may function in this manner are:

1. The responsibilities of the supervisor relative to the whole training program should be clearly defined and understood by him and by his official superiors as well
2. The supervisor should be properly and adequately "backed up" by his official superiors.
3. The supervisor should have the authority necessary to make his work of following up and securing continued application of the results of training proportional to his responsibilities for such continued application or holding on.
4. There should be a minimum of interference by staff members in the field of responsibility of the supervisor.
5. Real cooperation, both vertically and horizontally, should prevail in the organization, to the end that there may be team work and coordination of effort.

Because of the obvious fact that the supervisor in immediate charge of work operations is the key man in carrying the training program through the holding-on as well as the application stage, these conditions are discussed in some detail in the following paragraphs.

RESPONSIBILITIES CLEARLY DEFINED

Generally speaking, it is highly undesirable and unprofitable to put anyone to work on any kind of a job without

giving him a clear idea of just what his responsibilities are. It is especially important that the responsibilities which a supervisor is expected to meet should be made known to him. Regardless of the complexity or lack of complexity of an organization, first-line supervisors—those who are in immediate charge of work operations—are always aware of the fact that they are responsible for getting the work done. This is true even though the responsibility for selecting the workers, determining their number, obtaining the material to be worked upon, specifying the quality and quantity of material to be used, providing the working equipment and supplies, checking the quality of the product, and many other items has been placed upon others. Because of this fact, the competency of the members of his working group is a matter of major interest to the supervisor. Where the experiment has been tried of relieving him of all responsibility for the competency of the personnel under his supervision, the results, in most cases, have been unsatisfactory. While the average supervisor will, naturally, tend to assume the responsibility for the necessary training of his working group, it is particularly important that he should understand clearly that the higher executives recognize his responsibilities in this field. While some of the instruction may be given by others, to groups or classes either within the organization or outside of it, the responsibility of seeing to it that the application and holding-on phases of the program are satisfactorily taken care of can hardly be assumed by anyone other than the supervisor in immediate charge of the work. A clear appreciation and understanding of these matters on the part of the supervisor and his official superiors may therefore be regarded as one of the prerequisites for the efficient discharge of the supervisory function.

SUPERVISOR SHOULD BE BACKED UP

In carrying a training program through the application and holding-on stages, the supervisor will necessarily have to make decisions, formulate plans, and carry them out. So long as such decisions and plans are limited in scope to the field in which the supervisor is held responsible for the results secured, he should have the support of the higher executives in the organization. This means that he should be free to exercise his own judgment in making routine assignments of work and in selecting individuals in his group to assume special or unusual responsibilities when necessary. To the extent that someone else tries to do these things for the supervisor, he interferes with his legitimate duties and makes it increasingly difficult for him to carry the training program through the application and holding-on stage.

It is, of course, true that a supervisor will often need advice in regard to these matters. A training officer or director of training who is familiar with the entire training plan should be able and willing to give some advice and practical assistance when called upon to do so. He should, however, stop short of assuming authority. To do otherwise weakens rather than strengthens the supervisor. In fact, this relationship between the supervisor and the director of training, if properly handled, will constitute a perfect example of the application and holding-on stages of training in the field of supervision.

If it is theoretically sound to expect supervisors to function efficiently in performing the duties and meeting the responsibilities that clearly belong to the supervisory job, it is sound training procedure to do everything possible to assist them in building up their ability to meet the require-

ments of the job. One practical way of assisting them is for management to back them up effectively when they are making a genuine effort to function. On the other hand, it is probable that one of the most effective ways of weakening supervision is to give minor officials, who are not responsible for operations, authority to interfere with the job of the supervisor. Industrial foremen have referred to the latter situation as involving too much "insect authority."

AUTHORITY COMMENSURATE WITH RESPONSIBILITIES

This requirement for efficient supervision is closely related to the question previously discussed concerning the importance of having the supervisor's responsibilities clearly defined and understood. Even though a supervisor has a clear understanding of the responsibilities which he is expected to assume, he will be prevented from functioning efficiently on his job unless he is given the authority necessary to deal with problems and situations within his own field of operations. So far as carrying the training program through the application and holding-on stages in his own department is concerned, he should not be required to submit all questions regarding details either to his official superior or to a staff member in general charge of training. To withhold from the supervisor the authority necessary to enable him to deal with situations within his own particular field of responsibility is to deprive him of all opportunity to make good on his job. In view of the obvious fact that the application and maintenance or holding-on phases of training must be carried through, on the job, if they are to be realized at all, the folly of depriving the supervisor of the authority necessary for him to perform his functions should be clearly apparent.

MINIMUM OF INTERFERENCE BY STAFF MEMBERS

It has already been pointed out that one of the principal prerequisites for carrying instruction through the training and application stages, and maintaining or holding on to such gains and improvements as are realized, is that the supervisor must be backed up by higher-line executives. Unfortunately, higher executives sometimes delegate their authority relative to the training program to staff members, to the extent that the latter assume executive control over it. A supervisor or director of training who clearly understands the relationship which should exist between his department or service and the production or operating organization will do everything possible to prevent this from happening. In the opinion of the author, the best situation is found where leadership in connection with training problems is supplied on a *service* basis to operating executives, by a director or supervisor of training, quite independent of any direct exercise of authority. Where this relationship exists, interference with the resulting misunderstandings and conflicts which inevitably follow is likely to be at a minimum. A minimum of interference and a maximum of service to supervisors, who must carry most of the responsibility for translating the results of the more obvious aspects of the training program into permanent gains and continuing improvement in the performance of work, form the combination that will give the best results.

COOPERATION

Cooperation of subordinates with their official superiors is a condition which must exist in any organization if it is to function with any degree of efficiency. This type of cooperation involves the carrying out of orders, directions, and

suggestions in conformity with such policies as have been made known to the members of the organization lower down. Cooperation may also prevail in the reverse direction in any organization. In other words, executives may cooperate with their subordinates. For example, consideration for the physical well-being of employees, evidence of an interest in employees as individuals, a genuine regard for the comfort and safety of workers and a desire to improve working conditions generally, all serve to illustrate how cooperation may manifest itself when it works from the top downward. Interest in providing genuine opportunities for the individual growth and development of employees, limited only by their native abilities and potential capacities, is one particular form in which cooperation from "higher ups" shows up in connection with training programs.

Another type of cooperation may exist in any working organization, and the degree to which it actually does exist is indicative of the quality and nature of the somewhat intangible thing called morale. It is quite commonly known as horizontal cooperation—cooperation between persons of equal rank. When it prevails, people work together agreeably, not because they *have* to but because they *want* to. This type of cooperation can be secured only as a result of the development of mutual understanding and respect among those of equal rank in an organization. It is the outcome of an attitude of mind which cannot be secured by *ordering* it into existence. When it prevails, it results from wise leadership, sound policies, a square deal all round, and other profitable personnel practices. To the extent that it does function in man-to-man relationships within an organization, it cannot have other than a salutary effect upon the training program in all its several stages. While it is obviously true that the carrying of the training pro-

gram through the application and maintenance stages is largely a responsibility of each individual supervisor, co-operation between supervisors can certainly help to accomplish the objectives for those stages. The interchange of ideas regarding ways and means of dealing with the problems which arise and an evaluation of the results secured under different conditions suggest ways in which this type of cooperation may be utilized in connection with training activities in all their several aspects.

SUPPORT OF EXECUTIVES

In preceding chapters it has been pointed out that executive support is essential to the success of a training program. So far as the writer is informed, there are no cases that can be cited where really successful programs have been operated without such support. Executive support has not always been manifested in ways which were conspicuous; but in all instances, wherever worth-while programs of in-service training have been conducted, there has been some degree of executive approval of the idea, and a willingness to permit the training program to function.

CONTINUITY OF INTEREST OF EXECUTIVES

Higher executives should be asked to visit, at frequent intervals, the sessions of training groups. Also, reports on the scope and nature of all training activities should be made by the training officer and should go forward, at suitable intervals, to the higher executives in the regular order of business. Occasional conferences with individual executives or groups are also desirable, for the purpose of enabling the training supervisors to keep the higher executives adequately informed concerning the objectives of the train-

ing program and the degree of success which is being achieved in its operation.

MASTER SESSIONS

So-called master sessions have been found to afford an excellent means of familiarizing higher executives with the objectives of supervisory training, especially where the conference procedure has been used. After having carefully planned a conference for a group of supervisors, the outline is tested out by working through it with the higher executives. In this way those who are superior in rank to the first-line supervisors are provided with an opportunity to pass judgment on the nature of the objectives to be worked toward with the latter group, and to secure an appreciation of the methods which will be used in the attainment of those objectives. All of this will not only serve to familiarize the higher executives with the scope and nature of the problems of the supervisors but it will also provide them with an opportunity to contribute to the actual subject matter used to bring to bear upon the program the viewpoint of the management. Master sessions can usually be handled so as to accomplish the objectives suitable for an executive group in a much shorter period of time than is required for actual conference discussion with first-line supervisors. The master-session group functions best when it operates as a board of review, to pass upon the suitability and relative importance of the conference objectives set up for the supervisors and the scope and nature of such informational material as has been prepared for use as follow-up text material to be distributed subsequent to conference sessions. The training officer, director of training, or whoever it is who functions as such can

definitely strengthen his program and facilitate its operation in all its ramifications if he realizes fully the value not only of securing executive approval in general but also of making all higher executives parties to the actual operation of the training program. The master session is one highly practical means of accomplishing this.

THREE WAYS IN WHICH IMPROVEMENT SHOULD BE SECURED

A successful training program for employed personnel may be expected to make a definite and tangible contribution to the realization of at least these three desirable outcomes:

1. Definite and permanent improvement in the performance of work on all levels.
2. More effective cooperation and team work in the organization.
3. Improved morale throughout the organization.

With respect to these outcomes, which really represent the attainment of an indefinite number of specific training objectives, it would be difficult to overemphasize the importance of following up the more obvious phases of a training program to the point where actual improvement in the performance of work becomes a part of the standard practice of the organization concerned.

A few, usually a minority, of the persons trained, will carry the results of this training over into actual practice. They will do this for a number of reasons, practically all of which are associated with known interest factors and so-called "internal" incentives. The majority of the persons trained may be expected to stand in need of specific and tangible stimuli if they are to apply fully the new

208 THE HOLDING-ON OR MAINTENANCE STAGE

ideas and new skills dealt with in the training program, and make these a part of their everyday working practices. A few of the persons trained may be expected to continue on, after participation in the program, in much the same way as before. In other words, the training, no matter how well put over, will not fully overcome the inertia of fixed habits and attitudes.

TWO PRINCIPAL INFLUENCES NECESSARY FOR SUCCESS

In summing up this discussion of ways and means of carrying a training program through the holding-on stage, consolidating gains, and making improved practices permanent, there appear to be two principal influences that can be brought to bear upon the problem. The *first* is effective supervision by the first-line executives. Through their contacts with individuals, many interest factors can be made effective and desirable incentives can be utilized. The *second* is good managerial procedure. This includes the formulation and application of desirable personnel policies and practices, including the utilization of what may be termed "external" incentives. It includes also the essential factors of adequate executive support and backing up of the training program in all its aspects. Where both these means of holding on to improvement in the performance of work are found to be ineffective, the only remaining method that can be used is the direct exercise of superior authority.

APPENDICES

APPENDIX A

OUTLINE OF AN INSTRUCTOR-TRAINING COURSE

A practical instructor-training course from which all non-essentials have been eliminated is outlined on the charts which follow. It may be noted that the progress of an individual through this course is made in four definite steps or stages:

1. Obtaining an appreciation of the teaching job.
2. Developing the ability to do a good teaching job.
3. Developing the ability to plan instructional work.
4. Developing the ability to prepare teaching material and to use it intelligently.

It may occur to the reader that the sequence of these steps is somewhat illogical. From a theoretical standpoint the *ability to plan* should precede the development of *ability to do* the job. However, as it works out in practice, the ability to plan instructional work represents a stage of growth in the training of instructors that *follows* rather than precedes ability to do a good job of teaching.

OUTLINE OF A BASIC INSTRUCTOR-TRAINING COURSE FOR MATURE WORKERS
WHO ARE OCCUPATIONALLY COMPETENT *

Major Objectives	Subsidiary Objectives	Methods and Procedures	Suggestions as to Details
1. To develop an appreciation of the difficulties of a learner.	A. To bring out, through participation, some of the difficulties experienced by a learner, such as: a. Inability to grasp and understand more than a limited number of new ideas at once. b. Inability to understand technical language and special terms. c. Self-consciousness and fear of exposing ignorance.	1. Place prospective instructor in the position of learner on some piece of work which is entirely new to him.	<p>1. Tying several different knots, such as: a. Square knot. b. Sheet band. c. Underwriter's knot. d. Bowline. e. Clove hitch.</p> <p>2. Adding two columns of figures at once.</p> <p>3. Addition and subtraction of common measurements on rule, using the thumb nails to keep track of items, i.e., $.23\frac{1}{2} + .36 + .54$.</p> <p>4. Finding a common fraction approximately equal to a given decimal, as for example: a. Find nearest 16th to .890 in. b. Find nearest 32nd to .282 in.</p> <p>(The above units are suggestive only. Any simple teaching unit involving a very few few teaching points would be satisfactory.)</p>
2. To give prospective instructors an appreciation of what the teaching job consists of, and to give them functioning information concerning the principal	A. To secure an appreciation of the fact that teaching consists of 4 (or 5) distinct steps. B. To identify the principal methods of instruction and secure some appreciation of the suitability of the different methods for the several steps in instruction: a. Questions—different types.	1. Analyze demonstrations given in working to previous objective. 2. Distribute chart on "Steps in Instruction."	<p>1. Informational demonstrations, such as: a. Knots if they have not previously been overworked. b. Striking an arc of a circle through any three points in the same plane.</p> <p>2. Informational and suggestive questions. 3. Sketches.</p> <p>3. Additional demands</p>

Teaching methods that may be applied to their work.	b. Informational demonstrations. c. Demonstrations, step by step. d. Demonstrations—sketches. e. On the job. f. Lecture. g. Experimentation.	ontractions by instructor, illustrating the several methods of instruction.	<p>1. The units of instruction for the series of demonstrations should be selected from the jobs of the prospective instructors. They should represent items of technical knowledge and skill on which the prospective instructors are proficient.</p> <p>2. If possible, each man should give two demonstrations.</p>
	3. To develop ability to use the functioning information given to them in connection with work on Objective 2, and to make a beginning in developing their skill as instructors.	<p>A. To have group members secure participating experience through their attempts to apply "on the job" the functioning information which has been supplied.</p> <p>B. To drive home the idea that teaching, as such, calls for special knowledge and skill quite independent of the technical knowledge and skill which the instructor possesses relative to any particular field of work.</p> <p>C. To secure an appreciation of the need for planning each lesson to be taught.</p>	<p>Have the learners plan and teach short demonstration lessons each of which will be critically analysed for the benefit of the group.</p> <p>1. Have prospective instructors work out lesson plans and submit them for criticism.</p> <p>2. Have each group member use, in a teaching demonstration, a plan which he has prepared in advance.</p>
4. To develop ability to plan specific lessons.	<p>A. To develop ability to plan for each step as to methods, auxiliary information to be tied in, etc.</p> <p>B. To develop ability to identify teaching points and to present them effectively in suitable order.</p>	<p>1. Plan so far as possible to secure variety in the demonstrations—manipulative and technical—and avoid at all costs letting the demonstration degenerate into farces.</p> <p>2. Use analyses for identification of teaching units.</p>	

* See footnotes at end of table.

OUTLINE OF A BASIC INSTRUCTOR-TRAINING COURSE FOR MATURE WORKERS
WHO ARE OCCUPATIONALLY COMPETENT*—Continued

Major Objectives	Subsidiary Objectives	Methods and Procedures	Suggestions as to Details
5. To develop the ability to plan a progressive series of lessons.	<p>A. To develop an appreciation of the planning job.</p> <p>B. To develop ability to use the analysis for this purpose.</p>	<p>1. Use analysis as source material.</p> <p>2. If time is available, have group members lay out plans for several progressive courses.</p>	<p>1. In an ordinary teacher-training course, 15-30 hours, it will probably not be possible to deal with this phase beyond the appreciation level.</p>
6. To develop ability to plan training courses with regard to known objectives.	<p>A. To develop the ability to set up practical training objectives.</p> <p>B. To develop ability to use the analysis for planning training courses.</p>	<p>1. Individual work in planning.</p> <p>2. Examination and criticism of existing programs.</p>	<p>1. Probably limited to information and appreciation only.</p>
7. To develop ability to work out organised instructional material.	<p>A. To develop an understanding of the functions, uses, and limitations of instructional material.</p> <p>B. To develop power of discrimination relative to instructional material.</p>	<p>1. Conference discussion with group of experienced instructors from the same field of work.</p>	<p>1. Sufficient time should be available to permit of thinking the problems through.</p>

* This outline is adapted from one prepared by the author of this book which was first made available in a mimeographed publication entitled, "Report of a Thirty-Hour Course in Training Instructors for the Police Service," issued by the Federal Bureau of Investigation, 1938.

APPENDIX B

CONDENSED OUTLINE OF A CONFERENCE-LEADER TRAINING COURSE

The outline which follows is presented, for its suggestive value, to those persons who may be called upon to conduct training courses for conference leaders. It represents the results of many years of experience in conducting such training courses with different groups of people in various sections of the United States. With a properly selected group, the course as outlined can be carried through to a point of at least "amateur doing ability" in a total time of forty to sixty hours, depending upon the size of the group. Item 5 is obviously an appreciationsal objective, unless the persons enrolled in the course are, at the same time, dealing with training problems in the organization which they represent.

Experience has indicated to the author that two demonstration conferences by each group member is the minimum that should be regarded as satisfactory. In the great majority of cases, some of the first attempts are highly amateurish; but, on the second round of demonstrations, the majority of the specimen conferences are excellent examples of good conference work. It is the practice of the author to distribute his instruction, as such, in small instalments and at intervals between demonstrations by group members. Also, all text material used is regarded as follow-up reading rather than as lesson material to be studied in advance.

Many additional suggestions for training courses for conference leaders will be found in Vocational Education Bulletin 125, of the U. S. Office of Education, reprinted 1938.

Major Training Objectives	Subsidiary Objectives	General Methods and Procedures Recommended	Suggestions as to Details of Operation
1. To develop a clear understanding of the difference between leading a conference and teaching a class.	1. To emphasize the importance of group experience as the principal source of data and ideas. 2. To present in as striking a manner as possible the contrast between the conference procedure and ordinary instruction.	1. Demonstrations by person conducting course: first, to illustrate conference technique and, second, to illustrate regular teaching. One or two short demonstrations of each should suffice.	1. Ascertain total years of work and supervisory experience represented in group and explain their significance. 2. Use one or more type questions for conference discussion, such as: a. What are some of the principal ways in which the foreman's or supervisor's job is different from the worker's job?

CONDENSED OUTLINE OF CONFERENCE-LEADER TRAINING COURSE—Continued

Major Training Objectives	Subsidiary Objectives	General Methods and Procedures Recommended	Suggestions as to Details of Operation
3 To bring out the fact that in a conference, the instructor, learner, or professor student relationship has no place	2 Analyze the conference and teaching demonstrations given, and develop chart to show a The first 4 (or 5) conference stages, and b The four teaching steps	3 Give short teaching demonstrations, using real but small teaching units, such as a Knots and hitches—bowline, clove hitch—square knot b Mathematical problems	b Why are individuals careless on the job? Illustrate the use of several methods of instruction, such as demonstration, illustration, lecture, and "on the job"
2 To develop an appreciation of conference leading technique, and the job of a conference leader; to bring about a realization of the need for determining conference objectives	3 Summarize the points that have been brought out	4 Assign Chapter I of <i>Foremanship and Supervision</i> , as follow-up reading	1 Use blackboard sketches to illustrate the five principal types of conference objectives 2 Use various illustrations to emphasize the importance of knowing what you want to accomplish before deciding upon how to do it 3 Take one or two typical major objectives, such as "to reduce the number of accidents"

<p>tives and to stress the importance of preparing a general plan of operation</p> <p>4 To list out and explain the principal conference devices, and instruct group as to their relative values in the several conference stages</p>	<p>1 To bring about a realization of the value and importance of the functioning information presented in connection with instruction given under the preceding objective</p> <p>2 To develop ability to use the functioning information when acting as a conference leader</p> <p>3 To build up the confidence of the group members in their ability to lead a conference</p>	<p>to workers," and work out the natural and logical "thinking steps," thus illustrating how to derive the subobjectives and get satisfactory column headings for chart</p> <p>4 Point out the importance of handling many objectives as <i>indirect</i></p> <p>5 List principal conference devices and develop chart showing relative utility for the first four conference steps</p> <p>6 Assign Chapters II, III, and IV of <i>Foremanship and Supervision</i>, as follow-up reading</p>	<p>1 Advise and assist group members in planning for their demonstration conferences, having in mind considerations, such as</p> <ul style="list-style-type: none"> a The suitability of the topic or question from the standpoint of group experience and probable interest b The conference objective c The possible difficulties in handling topics, problems, and questions related to matters within the foreman's field of supervision and management are easier to develop than problems involving co-operation between foremen and relationships with higher executives d The blackboard outline which it is planned to use <p>1 Have group members take turns in conducting specimen conferences in order to secure participating experience</p> <p>2 Analytical discussion and constructive criticism following each demonstration</p> <p>3 Informational and developmental teaching as may be necessary to supplement that previously given, especially</p>
---	--	---	--

CONDENSED OUTLINE OF CONFERENCE-LEADER TRAINING COURSE—Continued

Major Training Objectives	Subsidiary Objectives	General Methods and Procedures Recommended	Suggestions as to Details of Operation
4 To emphasize the importance of avoiding generalities	where the demonstrations by group members and the ensuing discussion indicate the need therefor	2 Explain to group that no one ever learned to lead a conference by having somebody tell him how it could be done by watching someone else or by reading about it. This should encourage active participation	3 Assign Chapters X, XI, and XII of <i>Foremanship and Supervision</i> , for reading and study
5 To develop good blackboard or chart technique			
4 To develop further ability to plan and lead a conference, with regard to a predetermined objective	1 To develop a more complete understanding of conference devices, and to develop a higher degree of skill in using them	1 Have group members give a second round of demonstration conferences	1 At this point in the training course, each group member will have conducted at least one specimen conference
	2 To bring out the importance of good distribution of discussion	2 After each demonstration, have leader explain what his objective was, how he had planned to attain it, and to what extent he had been able to follow his plan	2 Group members should be encouraged to select more difficult topics and problems.
	3 To develop ability to deal with difficult and "tricky" conference situations, and avoid being side-tracked	3 Analytical discussion and constructive criticism of each demonstration	3 A list of checking points made available to the group is a useful device
	4 To develop resourcefulness in action, and ability to read	4 Have individual group members take turns checking the distribution of discussion, and making up charts	4 Assign Chapters V and VI of <i>Foremanship and Supervision</i> , as reference and follow-up reading

<p>organise plans, and derive ways and means of dealing with unexpected situations.</p>	<p>4. Such supplementary informational and developmental teaching as the situation may call for—probably on the finer points of conference technique.</p>	<p>1. Unless the group is made up of individuals who will be in a position to work under this objective on practical problems in their respective organisations, the training indicated cannot be carried much beyond the appreciation level. Real training values for the group members are best realised where the individuals enrolled are confronted with practical situations with which they are attempting to deal.</p>
	<p>5. To develop ability to plan a progressive series of conferences, with regard to predetermined needs and such general objectives as have received executive approval.</p>	<p>1. To examine the principal factors upon which a successful conference program depends.</p> <p>2. To bring out the characteristics of efficient supervision, and the conditions which must prevail if it is to be realized in practice.</p> <p>3. To secure an understanding of type situations which can easily be recognised by an executive and those which are likely to be brought out in conferences of supervisors.</p> <p>2. Have group members set up a progressive series of objectives and work out plans to carry them out, in accordance with known or assumed working conditions.</p>
		<p>1. Conference discussion, if the group members have had sufficient managerial experience; otherwise, informational and developmental teaching by the person in charge of the course.</p> <p>2. Assign Chapters V and VI and XVI of <i>Foremanship and Supervision</i> for reference and follow-up reading; also as much of <i>Training Procedure</i> as they are interested in reading.</p>

CONDENSED OUTLINE OF CONFERENCE-LEADER TRAINING COURSE—Continued

Major Training Objectives	Subsidiary Objectives	General Methods and Procedures Recommended	Suggestions as to Details of Operation
	<p>4. To consider the points which cannot safely be ignored in planning conferences to meet known needs.</p> <p>5. To develop an appreciation of the value of "master sessions."</p>		<p>1. Material used in the demonstration conferences previously held may be re-examined from the standpoint of one who must plan either to use it in his work to adapt it for his use, or refer to it for its suggestive value in developing new material.</p>
	<p>6. To develop ability to prepare conference material including suitable reports of conferences.</p>	<p>1. Conference discussion under person in charge of the course.</p> <p>2. Individual or group assignments, or committee work, with reports and group criticism.</p> <p>2. To consider the relative merits and weaknesses of specific conference material, including reports.</p> <p>3. To develop ability to prepare sample material, such as: cases, points for discussion, analysis charts, diagrams and other illustrations, follow-up reading and summarized descriptive reports of meetings.</p>	<p>1. Have individuals or groups prepare criticisms of various reports of foreman and supervisory conferences.</p> <p>2. Assign Chapter XII of <i>Foremanship and Supervision</i> for review and reference.</p>

APPENDIX C

SELECTED REFERENCES

ALLEN, CHARLES R., *The Foreman and His Job*. Philadelphia, J. B. Lippincott Co., 1922.

This book contains a wealth of material of value as a guide to conference leaders, and also as follow-up material for supervisory groups.

ALLEN, CHARLES R., *The Instructor, the Man and the Job*. Philadelphia, J. B. Lippincott Co., 1919.

This book is a comprehensive treatise on the application of teaching methods to trade and industrial education. It is well-nigh indispensable as a handbook for instructors, foremen, and supervisors, and is valuable as a follow-up textbook in connection with instructor-training activities.

ALLEN, CHARLES R., and TIEMANN, HARRY A. *Managing Minds*. New York, Century Co., 1932.

This book gives, in simple language, information as to the normal human reactions which lie at the base of approved practice in vocational education; it contains valuable information on educational procedures and techniques.

BRUERE, HENRY, and PUGH, GRACE, *Profitable Personnel Practice*. New York, Harper & Bros., 1929.

A practical reference book for personnel officers and other industrial and business executives, based upon the experience of the informational and advisory service in industrial relations rendered by the Metropolitan Life Insurance Company.

CUSHMAN, FRANK, *Foremanship and Supervision*. New York, John Wiley & Sons, 1927. Second Edition, 1938.

This is primarily a practical handbook for foremen conference leaders and supervisors of vocational education. However, the con-

ference technique as described and discussed is applicable to conference work generally. One chapter deals with the essentials of efficient supervision of working groups.

DONALD, WILLIAM J., Editor in Chief, American Management Association, *Handbook of Business Administration*. New York, McGraw-Hill Book Co., Inc., 1931.

This book gives a complete picture of management methods as of 1931. It provides in a convenient form "the fundamentals and the procedures of managerial policy and technique which may be put to use by business executives as problems arise and as business process changes."

GARDINER, GLENN L., *Better Foremanship*. New York, McGraw-Hill Book Co., Inc., 1936.

A book of practical questions and answers for foremen and supervisors.

GARDINER, GLENN L., *How to Handle Grievances*. New York, Elliott Service Co., 1937.

A brief presentation of fundamental principles which have been found to be effective in handling grievances.

HALL, HERMAN S., *Trade Training in School and Plant*. New York, Century Co., 1930.

This book is "an attempt to pass on to others in summarized form, and as a single volume, the results of the writer's search for information useful in the everyday work of the trade instructor. It is particularly intended for the . . . instructor . . . who has had no formal training for his work as a teacher and who is unable readily to attend a teacher-training class."

HEPNER, HARRY WALKER, *Human Relations in Changing Industry*. New York, Prentice-Hall, Inc., 1934.

This book "is offered for the use of that large group who wish to know how relations with employees and industry can be conducted in a more intelligent manner—a manner that may well be designated as industrial artistry."

SCHELL, ERWIN HASKELL, *Technique of Executive Control*. New York, McGraw-Hill Book Co., 1930.

A constructive analysis of the executive's responsibilities in the field of personnel administration, with suggestions as to how to deal with human-factor problems.

SCHELL, ERWIN HASKELL, and GILMORE, FRANK FORSTER, *Manual for Executives and Foremen*. New York, McGraw-Hill Book Co., 1939.

This is a handbook designed for the use of operating executives. It deals with a series of specific problems and suggests definite procedures for securing departmental improvement.

SIMONS, A. M., and DUTTON, HENRY Post, *Production Management*, Chicago, American Technical Society, 1940.

This book is a comprehensive discussion of the subject. It contains considerable information which should be of interest and value to executives and others who are confronted with the problem of training employed personnel.

SMITH, ELLIOTT DUNLAP, *Psychology for Executives*. New York, Harper & Bros., 1928.

A practical, constructive discussion of important problems involved in "learning how to manage men and how to work with them. . . ."

STRUCK, F. THEODORE, *Methods and Teaching Problems in Industrial Education*. New York, John Wiley & Sons, 1929.

While this book deals with problems of pre-employment vocational training, as well as with the training of employed adults, there is considerable material to be found in it which will be of interest and value to executives and supervisors of in-service training activities.

TEAD, ORDWAY, *Human Nature and Management*. New York, McGraw-Hill Book Co., 1929.

This book tells how to use psychology in managerial work. Three purposes have been held in view: first, to set forth the essentials of modern psychology and show the point of view it implies toward problems of human relations; to help the reader to improve the conduct of his own mental life; and, third, to show concretely the methods and procedures which are psychologically sound in the management of people.

INDEX

A

Accidents, too many, 43
Advantage, personal, 180
Allen, Charles R., cited, 87
Ambition, danger in overstimulating, 180
Analyses, of skilled trades, 75
 samples of, 70, 72, 75, 78, 79, 81
 the making of, 66
 types of for training purposes, 67
Analysis, of payroll job, sample, 70
 of production difficulties, 84
 of teaching unit, 89
 responsibility, 82
 what is it?, 66
Application, basic factors involved in, 172
 efficient instruction includes some, 169
encouragement needed for, 172
good, depends upon supervisor, 184
of training, factors affecting, 173
stage of training, how carried out, 182
stage, what is it?, 170
tendency toward inadequate, 170
Appreciational objectives, methods for, 137

Area, principal, to be served, 5
Authority and responsibility related, 202

B

Back sliding, some causes of, 191
Buck passing, excessive, 51
Bureau of Prisons, U. S., cited, 77-83
Business data, foremen unable to interpret, 53

C

Changes, frequent in procedure, 46
Check, effective, possibility of making, 152
Checking up, summary on, 165
Check-up, factors affecting value of, 152
 value of, 151
 what is it?, 149
Classes, extension, 110
 work time sometimes impracticable, 134
Competition, 176
 caution desirable in using, 179
 utilization involves dangers, 176
Conditions, fundamental, necessary for efficiency, 123
 may indicate need for special training plan, 99

Conference, intrinsic efficiency of, 142
 procedure, 141
 reports, 145

Cooperation, 203
 poor, between departments, 52

Correspondence courses, 118
 advantages of, 118
 disadvantages of, 119

Cost, high unit of production, 36

Costs, high maintenance, 45
 training, inescapable, 5

Courses, correspondence, 118

D

Data, business, foremen unable to interpret, 53

Decentralized units, types of organization for, 106

Defective work goes out unchecked, 42

Departmental and higher executives, 85

Director of training, job of, 34

Doing ability, methods suitable for, 140
 training methods, 138

E

Educational procedures, 136

Efficiency, fundamental conditions necessary for, 123

Efficient training, 108

Employees uninformed concerning policies, 54

Employment levels, 67

Evidence, ability to evaluate, 157
 kinds of, 157
 may be misleading, 163
 non-statistical, 159
 of improvement, 163

Evidence, of interest, 160
 statistical, 157

Executives, attitude of, 155
 continuity of interest of, 205
 departmental and higher, 85
 minor, 82
 support of, 205

Expansion or reduction, anticipated, 45

Extension classes, 110
 advantages of, 110
 disadvantages of, 111

Extension training, conditions indicating need for, 11

F

Fallacies, commonly accepted, 18

Federal Board for Vocational Education, cited, 72, 76, 82

Field of work, knowledge of, 93

Fields of training, two, 6

Follow-up necessary, 192

Foremen unable to interpret business data, 53

Frequency of meetings, 132

G

General programs, tendency toward, 28

Good job, often not noticed, 174

Group, heterogeneous, suggestions for handling, 126
 instruction, division of time for, 135
 sometimes impracticable, 134

Groups, poorly selected, examples, 126
 properly selected, 125
 size of, 127
 time arrangements for, 130

H

Heterogeneous group, suggestions for handling, 126
Holding-on stage, how handled?, 197
 importance of, 187
Human factor, importance of, 197

I

Improvement, evidence of, 163
 three ways in which it should be secured, 207

Influences necessary for success, 208

Informational teaching, methods for, 137

In-service training, summary, 24
 two principal classes of, 7

Institutes, conditions applying to, 117

 discounting factors for, 116
 or short courses, 114

Instruction, division of time for, 135

 efficient, includes some application, 169

 on work time sometimes impracticable, 134

 outlining units of, 86

Instructional outlines, 88

Instructor, ability of to evaluate evidence, 157

Instructors, essential qualifications for, 93

 need ability to teach, 94

 need well-balanced personality, 96

 selection and training of, 90

Integration, causes of poor, 189
 of training, 189

Interest, evidence of, 160
 evidence of may be misleading, 163
 executive, continuity of, 205
 factors, 173-181
Interference by staff members, 203

J

Jobs, routine, and skilled occupations, 73

Judgment, need for in running program, 146

K

Knowledge of field of work, 93

L

Learners, letting them sink or swim, 105

Lecture method, 138

Leisure time plans, disadvantages of, 132

Levels, employment, 67

Local programs, 107
 disadvantages of, 108

M

Maintenance, cost of high, 45
 stage, what is it?, 188

Management, training a responsibility of, 109

Massachusetts, Department of Education, cited, 88

Master sessions, 206

Meetings, frequency of, 132

Method, lecture, 138

Methods, for appreciational objectives, 137
 doing ability, 138-140

Methods, informational, 137
 thinking ability, 138
 training, 138

Minor executives, 82

Mistakes, some typical, 22

Morale, importance of, 189

N

Need, identification of, 27

Needs, wide variation in are common, 4

New experiences, desire for, 196

O

Objective, general or major, 64

Objectives, general and specific, 63-152

how attained, 65

specific or subsidiary, 65

three principal classes of, 127

On the job training supplemented, 110

Organization, consideration of types of, 119

types of for decentralized units, 106

types of for operating program, 98

Outlines, examples of instructional, 88

P

Payroll job, sample analysis of, 70

Pep, organization lacks, 47

Personality as a qualification for instructors, 96

Pitkin, Walter B., cited, 96

Plans, leisure time training, 132

Policies, employees uninformed regarding, 54

importance of sound, 192

uncertainty as to, 56

Preparatory training, conditions justifying, 7

subsequent to employment, 7

Procedure, frequent changes in, 46

Procedures, educational, 136

Production, difficulties, analysis of, 84

high unit cost of, 36

Programs, local, 107

Promotion, difficulties in finding persons qualified for, 39

Prosser and Allen, cited, 124

Q

Qualifications of instructors, 93

R

Recognition, as an interest factor, 173-175

desire for, 195

Record system, dangers to be avoided, 144

Records, training, 143

Refresher courses, 7

Reports, conference, 145

importance of not appreciated, 58

Responsibilities, authority commensurate with, 202

clearly defined, 199

not clearly defined, 59

not understood, 59

Responsibility, analysis, 82.
as an interest factor, 181
judgment needed in placing, 182
Routine jobs and skilled occupations, 73
Routine workers, 69

S

Schools, zone or regional, 112
Security, desire for, 193
Selection and training of instructors, 90
Self-expression, desire for, 194
Sessions, master, 206
Short courses, advantages of, 115
conditions for efficient training apply, 117
discounting factors for, 116
or institutes, 114
Situations, specific, should be recognized, 29
type, discussion of, 33
list of, 31
not always apparent to executive, 48
recognized by executive, 35
which may indicate need for training, 30
Skilled, occupations, 73
trades, 75
workers, 73
Slump, tendency to, 190
Special plans for in-service training, 100
Special training need, ways of meeting, 100
Staff members, interference, 203
Success, influences necessary for, 208

Supervision, importance of efficient, 198
Supervisor, should be backed up, 201
Supplies, wastage in use of, 59

T

Teaching points, identification of, 71
types of usually needed, 91
unit, analysis of, 89
Tead, Ordway, cited, 193
Tendencies, human, importance of, 193
Tendency to make programs general, 28
Thinking ability, methods, 138
Time, arrangements for groups, 130
division of for group instruction, 135
schedule, advantages of known, 135
Training, always costs money, 3
a few will apply it, 171
a responsibility of management, 109
application stage of, 182
costs inescapable, 5
department, production work, 102
director of, 34
division, non-productive, 101
efficient, characteristics of, 108
encouragement needed for application, 172
extension for employees, 11
fields of, 6

Training, integration of, 189
methods and devices, 136
not all can be farmed out, 98
objectives, three classes of, 127
on the job, by supervisors, 99
supplemental, 110
using advisers, 103
working with experienced man, 104
preparatory, 7
progression, 128
records, 143
two principal classes of, 7
Transfers, many requests for, 41
Turnover, high, 44
Type situations, discussion, of, 33
list of, 31
may indicate need for training, 30
not always apparent to executive, 48
recognized by executive, 35
Typical mistakes, 22

U

Uncertainty as to policies, 56
Units of instruction, outlining of, 86
Unskilled workers, 68

V

Variations in needs for training, 4

W

Wastage in use of supplies, 59
Work, defective goes out unchecked, 42
reasons for unsatisfactory, 91
Workers, routine, 69
skilled, 73
unskilled, 68
Working conditions, 127
as related to check-up, 153
Working force, anticipated changes in, 45
Wright and Allen, cited, 124

Z

Zone, or regional schools, 112
school success factors, 114

